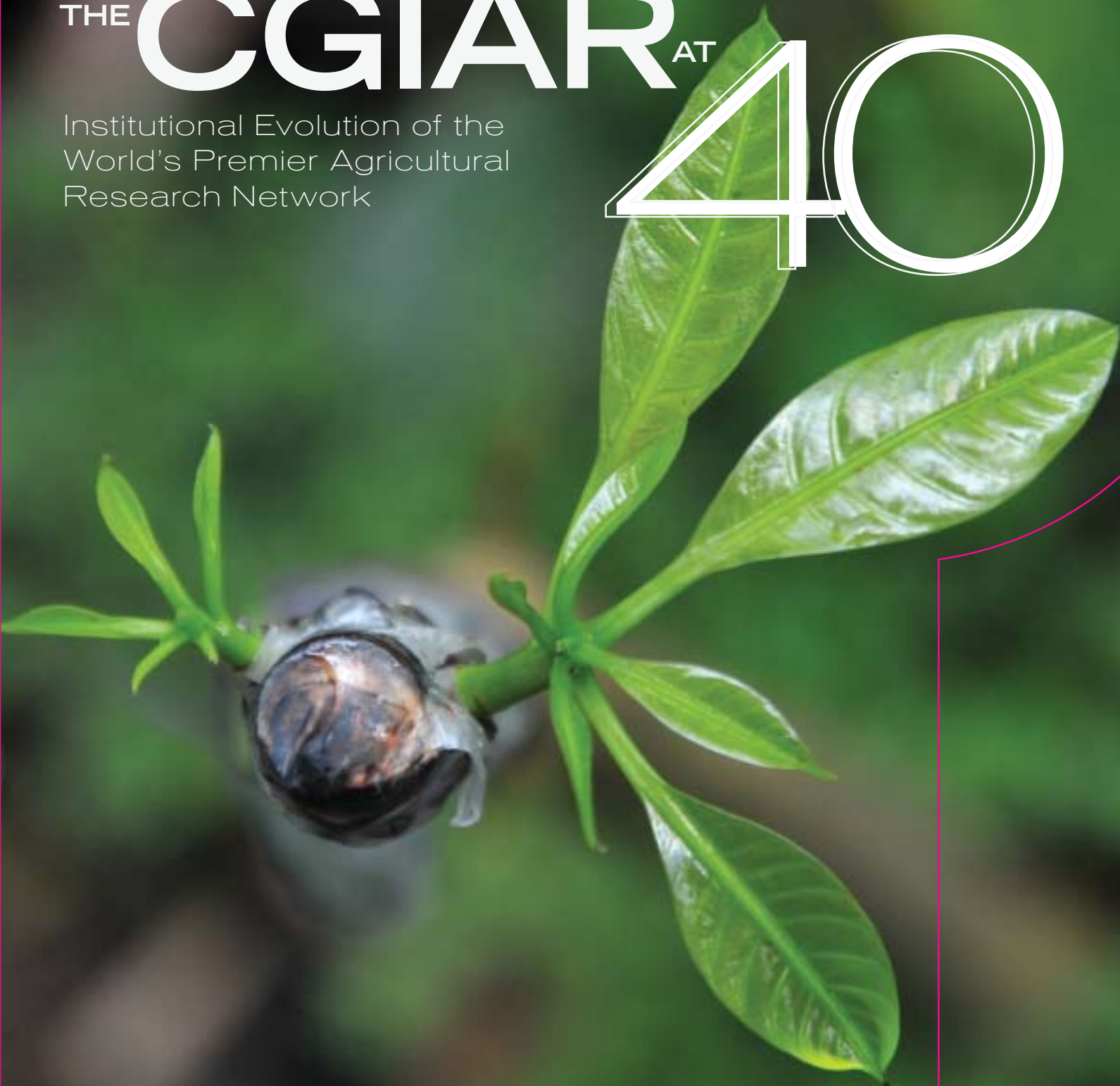
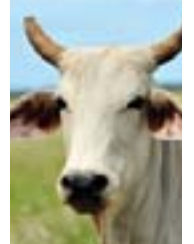


# THE CGIAR<sup>AT</sup> 40

Institutional Evolution of the  
World's Premier Agricultural  
Research Network









# ACKNOWLEDGMENTS

Few individuals with more than a quarter of century service to an institution have the opportunity to tell the story of their organization once they retire. I am grateful to the CGIAR Fund Office and, in particular, to Fionna Douglas and Jonathan Wadsworth for inviting me to write an institutional history chronicling its first 40 years. Having witnessed the system's evolution firsthand during 27 of those years, I saw this invitation as an opportunity to fill a vacuum, as there was no comprehensive account of how the CGIAR evolved as a network or elucidation of the lessons that could be drawn from its unique organizational experience. I saw it also as a major challenge because I needed to ensure that the facts I described were well supported and that my own biases were kept to the minimum.

On this latter point, the Fund Office and I are delighted that several individuals uniquely qualified to judge this piece because of their deep knowledge of the evolution of the CGIAR kindly agreed to review the draft and send their comments. Their insights were immensely helpful in enriching the draft and reducing the subjectivity that comes with any writing of history. We thank the following colleagues for their thoughtful comments: Andrew Bennett, Rodney Cooke, Guido Gryseels, Ruth Haug, Shantanu Mathur, Per Pinstруп-Andersen, George Rothschild, MS Swaminathan and Hubert Zandstra.

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**Selçuk Özgediz**

*Bethesda, Maryland*



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# PREFACE

As the CGIAR, formerly the Consultative Group on International Agricultural Research, marked its 40<sup>th</sup> anniversary last year, much attention was paid to the profound benefits its collaborative research has generated for millions of poor people in developing countries over the past 4 decades. Behind these well-documented scientific achievements lies another, little-known story of the CGIAR's institutional evolution. As we embark on our 5<sup>th</sup> decade, this timely book chronicles that history in the hope that lessons can be drawn from that experience, just as important lessons have been drawn from our accomplishments on the ground.

I cannot be alone in wishing that this account of the CGIAR had been available sooner. In my case, I needed it 8 years ago when I became responsible for United Kingdom investments in the CGIAR. Although what the CGIAR does has been amply described by a large and growing literature on CGIAR impacts on poverty, hunger, malnutrition and the environment, the same could not be said prior to this book for what the CGIAR is, how it works or the means by which it brings about its remarkable achievements. Yet these are precisely the questions that are asked when proposals to invest tens of millions of dollars are submitted for approval, a young scientist considers dedicating his or her career to the CGIAR, or a partner organization contemplates conducting joint research. Even after speaking to dozens of venerable CGIAR associates (many of whom have seen this text and confirmed its veracity), I found that the full picture remained elusive — like trying to put together a jig-saw puzzle without all of the pieces or the original box and further wondering if some extraneous pieces had crept into the pile. Thanks to this book, the picture is now clear and complete.

This volume traces the organic evolution of an organization so complex that no single individual had the full story, which had to be assembled from the knowledge and experiences of many people. It will be very beneficial to anyone wanting to understand how the CGIAR became what it is today. More importantly, the book provides insights and lessons for comprehending its future direction. From a more generic perspective, it will prove valuable to students and scholars of public institutional development and to those planning similar global initiatives.

It is instructive to recall the aspirations of Robert McNamara in 1969 when, as president of the World Bank, he wrote to the heads of the Food and Agriculture Organization and the United Nations Development Programme suggesting that they establish and administer a consortium, international research fund or some other institutional mechanism to support international agricultural research. Only in 2011, more than 40 years later, did the CGIAR realize those prophetic sentiments by formally establishing the Consortium of International Agricultural Research Centers and the CGIAR Fund. The story documented here by Selçuk Özgediz both unravels and integrates some of the complex political, financial and personal strengths and challenges that have characterized this institutional journey.

The accuracy of the narrative is supported by the voluminous and fully intact collection of CGIAR core documents. To avoid any unconscious tendency to rewrite history, we consulted with a number of major players in the CGIAR, many of whom have read and commented on successive drafts of this book. We are grateful for their clarifications, questions, personal perspectives and insider knowledge. Their contributions should not be read as implying their endorsement of the entirety of this book.





One overriding lesson is that the pace of the CGIAR's institutional evolution until 2008 was dangerously slow and constituted a very high risk for the CGIAR's future. Only through a judicious injection of revolution to complement its evolution has the CGIAR transformed itself, greatly enhancing its fitness for undertaking its vital role in the unprecedented challenge of sustainably achieving global food security in the first half of the 21<sup>st</sup> Century. No one expects the CGIAR to be institutionally static; indeed, its dynamism has been its strength over the past 40 years and must continue to be its strength in the coming decades. The CGIAR's adaptability will ensure not only its future relevance as an institution but also its ability to improve the lives of poor people. As Charles Darwin said, "If the misery of the poor be caused not by the laws of nature, but by our institutions, great is our sin."<sup>1</sup> These words aptly describe what the CGIAR stands for and embodies through its experiences outlined in this volume. The lessons distilled here will be invaluable in the future, as the CGIAR continues its inevitable adaptation to a changing world and shifting priorities and problems.

### **Jonathan Wadsworth**

*Executive Secretary, CGIAR Fund Council  
Head, CGIAR Fund Office*

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<sup>1</sup> Darwin C. 1838. *The Voyage of the Beagle: Journal of Researches into the Natural History and Geology of the Countries Visited During the Voyage of H.M.S. Beagle Round the World, 1832-1836*. London.



*We thank Selçuk Özgediz for his careful documentation and analysis of the history of the CGIAR. His long-term service in the CGIAR Secretariat has provided him with a unique perspective for this impressive account. Humanity is grateful to Norman Borlaug and his CGIAR colleagues for the early achievements of the Green Revolution at a time when the recent food price increases remind us that achieving a food-secure future without destroying the planet is still the greatest challenge facing us all in coming decades.*

**Carlos Pérez del Castillo**  
*Chair, CGIAR Consortium Board*

# SUMMARY

The Consultative Group on International Agricultural Research (CGIAR) has been one of the most successful research-for-development organizations over the past 40 years. The \$11 billion invested by CGIAR donor members in research conducted by the international Centers under its umbrella has yielded many multiples of that sum in economic benefits to developing and emerging countries. Annual economic benefits of research on rice in Asia alone are equivalent to the total investment made by CGIAR donors over 4 decades, leaving aside benefits in other continents and from other research conducted by CGIAR institutions.

The CGIAR's success is due in part to the way it was organized. The Group itself was an informal forum for dialogue among donor members about research priorities, investment options, and the continuing relevance and effectiveness of the institutions supported. The international Centers constituted the core of the CGIAR. Each was (and still is) an autonomous international organization governed by an international board. The Group and the Centers were originally advised by the Technical Advisory Committee (TAC) of distinguished scientists from developing and developed countries, each appointed as an individual. The Group's activities were facilitated by its Secretariat based at the World Bank in Washington, DC, and TAC's activities by another secretariat based at the Food and Agriculture Organization in Rome.

This historical account of the institutional evolution of the CGIAR system over the 4 decades focuses on governance and organizational change at the system level. Developments at the Center level are covered only to the extent that they have major systemwide implications. As Warren Baum's 1986 work on the CGIAR, *Partners Against Hunger*, provides a detailed account of the CGIAR's evolution over its first 15 years, this study covers that period more briefly than it does the last 25 years.

## Roots of the CGIAR

The roots of the CGIAR go to the Mexico-Rockefeller Foundation International Agriculture Program, which was set up in 1943 to increase agricultural production, primarily of beans, maize, wheat and potatoes. Led by Norman Borlaug, program scientists were able to produce new higher-yielding, short-statured wheat varieties by incorporating semi-dwarfing genes that had originated in Japan. These new wheat varieties were distributed to farmers in 1961 and enabled the doubling of wheat yields in Mexico in 7 years, making Mexico self-sufficient in wheat by 1969.

The Rockefeller Foundation was interested in broadening this scientific success in wheat in Mexico to Asia and to other crops such as rice, the main staple in most of Asia. But it did not have the resources to do so. This is when a partnership was formed between the Rockefeller Foundation and the Ford Foundation, as the latter had the resources and experience in Asia acquired through rural and community development projects it had been financing. The Ford Foundation provided the capital and the Rockefeller Foundation the scientific know-how and operating funds to set up the International Rice Research Institute (IRRI) in the Philippines in 1960. The success of IRRI in replicating the yield gains in wheat using short-statured rice varieties under the organizational setting of an international Center prompted the reorganization in 1966 of the Mexico wheat

program into a similar research Center, the International Maize and Wheat Improvement Center (CIMMYT by its Spanish abbreviation).

IRRI and CIMMYT worked with national agricultural research programs to develop modern high-yielding varieties, whose record harvests averted famine in Asia in the late 1960s and early 1970s in what was heralded as the Green Revolution. For this achievement, the two Centers shared the United Nations Education, Scientific and Cultural Organization prize for science, and Norman Borlaug was awarded the Nobel Peace Prize in 1970.

The successes of IRRI and CIMMYT prompted the Ford and Rockefeller foundations to replicate the organizational model in two other regions — the humid tropics of Africa and the lowland tropics of the Americas — with associated research on several food crops and commodities. In 1967, the International Institute of Tropical Agriculture was established in Ibadan, Nigeria, and the International Center for Tropical Agriculture in Cali, Colombia.

Within a few years the financial needs of the four-Center network began to exceed the funding capacity of the two foundations. The donor community, already enthusiastic about the successes of IRRI and CIMMYT, saw this as an opportunity to scale up this scientific initiative. Robert McNamara, president of the World Bank, took the lead in organizing a donor support group for the four institutes and possibly others, with the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Development Programme joining the World Bank as cosponsors.

## Establishment and Growth

The CGIAR was established in 1971 to support investments in research and technology development geared toward increasing food production in the food-deficit countries of the world. At the inaugural meeting held in Washington, DC, the CGIAR appointed TAC, with Sir John Crawford of Australia as its chair. The sponsorship of the existing four institutes was thus transferred from the two foundations to a larger group of investors.



From the beginning, the CGIAR's governance model was based on four basic principles:

- **Informality and consensus decision-making.** Throughout its history the Group operated as an informal body, making decisions by consensus. Consensus decision making was and remains the basic decision-making rule of the donors.
- **Donor sovereignty.** Each donor was able to base its funding decisions purely on its own policies and evaluation. There were no system-enforced funding quotas, payment of overhead or pooling of funds. This attractive feature made the CGIAR a preferred investment option in development assistance.
- **Center autonomy.** The four original Centers and practically all others brought under the CGIAR umbrella were organized as independent entities, each with an international legal personality and governed by an international board. Although they had managerial autonomy, the Centers were expected to adhere to the oversight and accountability measures installed by the CGIAR, the assembly of their primary donors.
- **Independent technical advice.** Donor representatives, most of whom were not scientists themselves, needed an authoritative scientific body to advise them on research priorities, investment opportunities and the quality of the science practiced at the Centers. TAC played a prominent role in the evolution of the system during its first 2 decades. Its influence would weaken later when power balances in the system began to change.

During its first 5 years the CGIAR grew quickly, in part because of a favorable climate for support to agricultural development in the development assistance community. Strategic studies conducted by TAC guided the Group in identifying new areas for CGIAR investment. Seven new Centers were brought under the CGIAR umbrella between 1972 and 1975, starting with the International Crops Research Institute for the Semi-Arid Tropics in India. This was followed in 1973 by the International Potato Center in Peru in 1973 and in 1974 two entities that were later transformed into autonomous Centers: the International Board for Plant Genetic Resources (IBPGR), not a research institution but a service organization to promote and assist in collecting and conserving plant genetic resources, and the research programs of the West Africa Rice Development Association (now the Africa Rice Center) in Liberia, later moved to Cote d'Ivoire and now headquartered in Benin. The establishment of IBPGR illustrated the importance the CGIAR attached to genetic resources and their conservation globally. IBPGR and its successors, the International Plant Genetic Resources Institute (IPGRI) and then Bioversity International, would play important roles globally in helping developing countries address genetic resource conservation and related intellectual property issues.

Two of the remaining three early Centers researched livestock: the International Laboratory on Research on Animal Diseases established in 1973 and the International Livestock Center for Africa established in 1975. The remaining early Center was the International Center for Agricultural Research in Dry Areas, established in 1975 with headquarters in the Syrian Arab Republic.

Growth was slower during the second half of the decade. Two new Centers were added towards the end of the decade, neither of them dealing directly with technology development. The International Food Policy Research Institute (IFPRI), based in Washington, DC, was to conduct research on policy constraints on agricultural development and food security. The International Service for National Agricultural Research (ISNAR), headquartered in The Hague, aimed to strengthen national research systems in developing countries, thereby helping address one of the institutional constraints to agricultural development.

The CGIAR thus added nine new Centers to the initial four during its first decade, bringing the total to 13. The number of donors increased from the 17 that attended the inaugural meeting in 1971 to 29 in 1980, bringing total investment in the Centers from \$21 million in 1972 to \$141 million by the end of the decade.

This rapid growth was possible because the ingredients needed for change were all present: the vision of the donors to build a global research network, strong leadership by TAC and its articulation of a compelling rationale for the type of research and institutions that were needed, and the willingness of donors to take responsibility for establishing new Centers. The financial climate did not pose a major obstacle, as shown by the sevenfold increase in funding in nominal terms over 8 years.

The growth years saw the CGIAR broaden its focus. While the initial focus on increasing food production through research on crop improvement remained the main focus, the research domain was expanded to include a farming systems approach to take into account the human and physical conditions within which production took place. In addition, the scope of research was expanded to include livestock problems (mainly in Africa) and institutional constraints on agricultural development. Further broadening of the original mission of the CGIAR would continue over time, bringing with it financial and coordination challenges.

## Stocktaking and Further Expansion

As the system grew, the need to clarify and systematize some corporate functions became clear. First, a program and budget review system was developed, followed by a monitoring and evaluation framework. A system of quinquennial external program reviews of Centers was initiated with evaluations of IRRI and CIMMYT by two distinguished panels. A process of reviewing the entire system every 5 years was started, with the first such review taking place in 1976 and the second in 1981. This disciplined schedule was abandoned in the 1980s, and the third review of the system would not take place until 1998.

The second system review prompted the clarification of corporate functions in the system. Centers began to prepare 5-year rolling plans, periodic management reviews of Centers were initiated, and attention focused on the roles and duties of trustees serving on Center boards, as well as on the nationality and gender composition of the boards. The corporate image of the CGIAR received attention, starting with the publication of a CGIAR annual report in 1984. Documenting the CGIAR's impact was a priority. A major impact study showed that from 1970 to 1983 the use of modern varieties of wheat and rice had increased the production of these grains in developing countries by more than 40 million tons. More than 16,000 scientists had been trained in CGIAR institutions during the same period, and over one-third of the world's collection of plant genetic resources were maintained in Center genebanks.

Globally, the development agenda was being shaped by independent commissions such as the Brandt Commission and the Brundtland Commission. The CGIAR research agenda was responsive to these trends. Both the Brandt Commission's stress on reducing poverty, especially in the poverty belts of Asia and Africa, and the Brundtland Commission's recommendation to shift to more sustainable forms of development received significant attention during the review of system priorities prepared by TAC. As redefined, the mission of the CGIAR was "through international agricultural research and related activities to contribute to increasing sustainable food production in developing countries in such a way that the nutritional level and general economic well-being of low-income people are improved." The CGIAR's main program thrusts were redefined as

- enhancing sustainability through resource conservation and management,
- increasing the productivity of commodity production systems,
- improving the policy environment, and
- strengthening national research capabilities.

Addressing new concerns associated with sustainability brought into question whether the CGIAR's existing institutions had the capacity to meet this challenge. To address this question a new "expansion study" was initiated to examine the inclusion in the system of 10 existing research institutions or networks associated with resource management. In the end, the Group decided to admit



four existing centers or networks — the International Center for Living Aquatic Resources Management, International Irrigation Management Institute, International Centre for Research in Agroforestry, and International Network for the Improvement of Banana and Plantain (INIBAP) — as well as a new forestry center that would later become the Center for International Forestry Research. (A sixth center, the Asian Vegetable Research and Development Center headquartered in Taiwan, was considered for inclusion in the CGIAR, but this was blocked by China for political reasons.)

The expansion process reflected some changes taking place in the power structure of the CGIAR. Donors were beginning to exert greater influence vis-à-vis TAC, deciding to expand the mission of the CGIAR to include forestry before TAC completed the requested study on expansion. Donors disagreed strongly with the TAC recommendation to have a single forestry institute, preferring instead to have two institutes: one on forestry and the other on agroforestry. This marked the beginning of a power shift that would continue throughout the past 2 decades.

## Crisis and the Road to Recovery

The additional funding that was expected to accompany the addition of new Centers never materialized. Contributions to the original 13 Centers declined in real terms for several years in a row, while the new Centers saw their funding increase. There were calls in the system for a new systemwide strategy. The CGIAR's total staff size had reached 12,000, 1,300 of them internationally recruited. Funding needs for 1992 reached \$332 million, a third more than donors' pledges totaling \$251 million. A budgetary solution, such as decreasing each Center's budget by a certain percentage, would not have been appropriate in the long term, as this would have ignored agreed priorities. Many in the system felt that more radical changes were needed to address the issue. TAC was asked to develop options for restructuring the Centers to address the funding shortfall. As a first step toward streamlining, the Group agreed on two mergers, integrating the two livestock Centers in Africa into the International Livestock Research Institute and bringing INIBAP's activities under the governance and administrative structure of IPGRI. Two standing donor committees were established, on oversight and on finance, to facilitate the Group's decision-making on these issues.

TAC's recommendations on restructuring were never made public because the new CGIAR chair, Ismail Serageldin, wanted first to try making a special appeal to donors to raise additional funds and avoid a crisis. He succeeded in raising a one-time \$20 million special grant from the World Bank, to be used as a 1:2 match against additional funding from other donors, which helped avert a major crisis, albeit only temporarily. The Centers took drastic action to streamline their programs and downsize staff. A redefinition of the CGIAR's research portfolio brought some Center projects previously outside the research agenda into the CGIAR-approved portfolio, enabling their funding to be added to overall CGIAR funding. These measures allowed the research agenda for 1994 to be funded in full.

Serageldin saw the need for the donor community to rededicate its commitment to the CGIAR. A ministerial-level meeting of CGIAR members was organized in Lucerne in 1995, which adopted the new mission statement "to contribute, through its research, to promoting sustainable agriculture for food security in the developing countries," as well as measures to broaden partnerships, clarify the CGIAR's research agenda and strengthen impact assessment.

Efforts to open up the system were successful, as five additional developing countries — Colombia, Côte d'Ivoire, Egypt, Iran and Kenya — joined the CGIAR, bringing the Southern membership to 13. In addition, the CGIAR helped convene the first Global Forum on Agricultural Research in 1996. The geographic coverage of the system was expanded after the break-up of the East Bloc, with new programs to assist former Soviet republics, particularly those in Central Asia and the Caucasus. The genetic resources collections of the CGIAR Centers were placed under the auspices of FAO's



Commission on Plant Genetic Resources, as was called for by the International Undertaking on Plant Genetic Resources for Food and Agriculture.

Steady progress was made on several policy fronts during this reform program. The newly started Gender & Diversity Program was proceeding on two tracks — gender analysis and gender staffing — to incorporate gender concerns more effectively into CGIAR research and improve organizational processes to attract more women scientists. The share of women among internationally recruited staff increased from 11% in 1991 to 26% in 2008. Progress in another policy area saw the development of the much-needed policy framework on genetic resources, intellectual property and biotechnology issues.

During this period the locus of power in the CGIAR had shifted from TAC to the CGIAR chair. The Center Directors Committee began exercising more influence once it started to operate more effectively as a team. The World Bank's decision to change its funding modality from balancing donor to matching donor weakened the means to enforce TAC-recommended system priorities. The most popular activities began to receive the largest contributions, but these were not necessarily the highest priorities in the TAC-recommended CGIAR research agenda.

Much had changed in the CGIAR since its expansion and financial crisis. The temporary infusion of funds and the renewal of commitment by heads of donor agencies had helped but not to the extent of alleviating Centers' concerns about the stability and sustainability of their funding. The answer to the discomfort felt throughout the system was to mount the long-awaited third system review.

The review panel, chaired by Maurice Strong of Canada, observed that the \$5.2 billion expended on the CGIAR between 1972 and 1997 had supported the near doubling of food production in developing countries. Strong called the CGIAR "the best single investment for ODA [official development assistance], bar none." The panel observed that the two pillars of the CGIAR's work should continue to be (1) integrated gene management and (2) integrated natural resources management. It recommended making the CGIAR a legally established corporation with a central board, an executive committee and a full-time chief executive officer. This recommendation met strong resistance from the Group, as had all earlier recommendations for centralizing power.

The system review had not provided a compelling new vision or associated change agenda for the CGIAR. Most of the recommendations, except the one on legalizing the CGIAR, reflected marginal change from the status quo. TAC was tasked with developing a vision, but that, too, did not find wide acceptance. There was renewed interest in identifying alternative governance and structure options. Electronic conferences of stakeholders organized by TAC yielded several options, ranging from establishing a single board to supervise all Centers to redefining the mandates of Centers as either global or regional. European donors offered alternative structural arrangements such as reorganizing the existing Centers into four regional programs servicing the needs of developing countries and establishing flexible, time-limited task forces drawn from Centers, national agricultural research systems, nongovernmental organizations, the private sector and advanced research institutions to address specific research issues. The Centers proposed creating a legal entity called the Federation of Centers comprising the Centers, a board for the federation and a federation office.

While these discussions were taking place, annual funding for the system was in the range of \$330-340 million — insufficient to tackle a growing and increasingly complex research agenda, which now included new concerns such as climate change and nutritional health — and restricted funding was on the rise at the expense of core funding. In the midst of all these institutional and financial concerns, new evidence was emerging on the impact of the CGIAR. One study showed that every dollar invested in CGIAR research meant \$9 worth of additional food being produced in developing countries.

## A Decade Filled with Change

The CGIAR's 4<sup>th</sup> decade was essentially devoted to designing and managing change. The first change effort aimed to begin shifting the financing of CGIAR's research from institutions (meaning Centers) to globally visible Challenge Programs (CPs). These programs were a way for the CGIAR to elevate its game, open up the system, strengthen partnerships with national agricultural research systems and other research actors, and mobilize additional funds. The change effort involved establishing an executive council to facilitate the work of the CGIAR. Other changes were to transform TAC into a science council, establish a CGIAR system office to encompass all units providing services to the Centers or the CGIAR, adopt the *Charter of the CGIAR System*, establish a system to measure performance, reduce the number of CGIAR meetings from two to one per year, and invest in strategic communications. Paralleling these initiatives, the Centers advanced their capacity for working together and taking collective action by forming an informal alliance.

The introduction of CPs, with no restriction on who could submit proposals, was seen as a threat to the Centers. To ease concerns the first three CPs were selected from among proposals submitted by Centers with themselves as lead institutions. These were Water and Food, to generate research-based knowledge on growing more food with less water; HarvestPlus, to reduce micronutrient malnutrition through research to breed staple foods rich in nutrients, in particular iron, zinc and vitamin A; and Generation, to use the latest advances in molecular biology to create a new generation of plants to meet farmers' needs.



Following the approval of these three pilot CPs, other institutions were permitted to submit proposals. The fourth CP emerged from this open process. Submitted by the Forum for Agricultural Research in Africa and called Improving Livelihoods and Natural Resource Management in Sub-Saharan Africa: Securing the Future for Africa's Children, it involved intensive research at three "learning sites" across sub-Saharan Africa to identify successful and innovative practices. The final CP approved by the CGIAR, following a few years of freeze, was on a much anticipated subject: climate change.

The CP experiment never achieved full traction, never coming close to the original intent of placing half of all CGIAR research under CPs within 5 years. The CPs did bring in some additional funding but also diverted some funding, including some from the World Bank, that would otherwise have gone to the core programs of the Centers. It created winners and losers among the Centers, as only a few coordinated CPs. The experiment had a major benefit, though, in demonstrating how the CGIAR system could run multi-institutional global research programs and helping prepare mindsets toward the even bolder application of this principle toward the end of the decade.

Most of the other reforms initiated during the first change effort helped improve CGIAR business processes. The Executive Council initiative showed how the donor Group, which had reached 62 members in 2002, could manage its affairs through delegation. Donors liked the Performance Measurement System because it focused on results and efficiency, but Centers disliked it because of the additional burden of generating the data required. The "virtual" System Office experiment did not generate much integration but helped inter-unit communication. The change made to TAC was not too dramatic. The new Science Council was able to develop a new set of priorities but unable to make headway with its new mandate to mobilize the scientific community toward the goals of the CGIAR.

While these changes were being implemented, a meta evaluation of the CGIAR conducted by the World Bank's Operations Evaluation Department concluded that the CGIAR was "less focused" than in earlier years because of the decline in the share of its resources devoted to increasing productivity in favor of research on natural resource management and biodiversity. The report was critical of the transformation of TAC into the Science Council, which was seen as reducing its role in setting priorities and allocating resources, and of initiating CPs before addressing first the issues of funding. The evaluation cautioned against the steep rise in restricted funding.

The rise in restricted funding was recognized as a troubling sign by all components of the system, as it had reached close to 60% of all funding, from 36% in 1992, and some Centers were facing serious financial difficulty. ISNAR was also having performance problems. Its external review was unimpressed with its performance after 20 years of operations, as it had recorded only modest impact. The CGIAR agreed to phase out ISNAR, transferring its governance and more effective programs to IFPRI. The donor community was also deeply concerned about the CGIAR's inability to address several issues regarding the alignment of funding with system priorities, of center programs with regional priorities, and of center activities with partner activities.

These concerns led the Group to initiate a facilitated change management process under the new CGIAR chair, Kathy Sierra, thus starting the second major change initiative of the decade. A change steering team was formed to lead consultations with all stakeholders over the next 2 years on vision, partnerships, governance and funding, and the development of a comprehensive set of recommendations for restructuring the governance and financing of the CGIAR. The building blocks of the new CGIAR became clear early in the process: a programmatic approach to research (funding programs instead of institutions), establishing a collective donor fund and assigning system-level management responsibilities to a board. These views coincided with the recommendations of an independent review panel that the World Bank had charged with assessing the effectiveness and efficiency of the CGIAR partnership.

The CGIAR approved the recommended changes at its annual meeting in 2008 and began a transition to the “New CGIAR.” A new vision was adopted (“to reduce poverty and hunger, improve human health and nutrition, and enhance ecosystem resilience through high-quality international agricultural research, partnership and leadership”) along with four strategic outcomes:

- reduced rural poverty,
- improved food security,
- improved nutrition and health, and
- sustainably managed natural resources.

The basic organizational principle underlying the New CGIAR was to separate those who implement CGIAR research (the “doers”) from those who fund it (the “funders”). This would be accomplished by having the Centers establish a separate international organization called the Consortium of International Agricultural Research Centers, with a board, chief executive officer and Consortium office. The counterpart of the Consortium on the funders’ side would be a strategic financing facility called the CGIAR Fund, with the Fund Council as its executive arm supported by the Fund Office and advised by the reconstituted Independent Science and Partnership Council. The Funders Forum would bring together all funders, whether they contributed to the CGIAR Fund or not, every 2 years, and the biennial Global Conference on Agricultural Research for Development would help align the work of the CGIAR more closely with global and regional needs and activities.

The Strategy and Results Framework (SRF) developed by the Consortium and endorsed by the Funders Forum would provide a roadmap to achieving the new vision and strategic outcomes. The Consortium would operationalize the SRF through a set of global programs called CGIAR Research Programs (CRPs) and request financing for each CRP from the Fund. Binding results-based program performance agreements between the Fund and the Consortium would define the funding and results-based operational dimensions of each CRP. In addition to results-based contracts, accountability would be ensured through a streamlined monitoring and evaluation mechanism, with a new independent evaluation mechanism set up by the Fund Council as its anchor.

The CGIAR endorsed these changes at its final meeting in December 2009 by adopting a declaration that outlined the essential elements of reform, approving three founding documents and appointing the first Fund Council to assume executive responsibility for the donor group. During the same meeting, the Bill & Melinda Gates Foundation, which had been a major bilateral donor to Centers, joined the CGIAR.

Thus began a new chapter in the CGIAR’s history, bringing to an end the Consultative Group and the other system units that had served it over the 4 decades. Though the Consultative Group would no longer exist, the “CGIAR” name would continue to be used to refer to the new system. Financially, the CGIAR had ended its final year of operation with \$606 million in contributions in nominal terms, the highest in its history.

## The New CGIAR

The New CGIAR became operational in 2010. The CGIAR Trust Fund was established at the World Bank in January of that year, though contributions to the Fund would await the development of the legal instruments needed between individual donors and the World Bank and between the World Bank (acting as agent of the Fund Council) and the Consortium. This was followed by inaugural meetings of the Fund Council and the Consortium Board; the first Global Conference on Agricultural Research for Development, held in Montpellier, France, in March 2010; and the first Funders Forum, held at FAO headquarters in Rome in July.



Though the New CGIAR became operational at the beginning of 2010, financial arrangements between donors and Centers would continue to follow the procedures of the old CGIAR until some CRPs were approved, which required prior approval of the SRF. As the development and review of CRPs required a sequential process, a dual funding arrangement was used until all CRPs were approved, enabling the Centers to continue to be funded under the old regime while CRP funding evolved.

Although the original intent of the CGIAR Fund was to finance only the agreed CRPs through two funding windows, one for unrestricted (pooled) contributions to be allocated to CRPs by the Fund Council and the other for contributions targeting specific CRPs, donors preferred to have the option of channeling contributions directly to specific Centers through the CGIAR Fund. Thus, a third window was added to the Fund structure for this purpose, its continuation to be reviewed after a 2-year transitional period. The Fund Council was not to enter into any contractual relationships with the Consortium or the individual Centers with respect to the use of window 3 funds, as this window was essentially a pass-through mechanism to channel donor funds to individual Centers.

To take advantage of funding from some donors that would be lost if not used during the 2010 calendar year, two CRPs at advanced stages of preparation were fast-tracked for approval in 2010, before the endorsement of the SRF: (1) the Global Rice Science Partnership and (2) Climate Change, Agriculture and Food Security. Their budgets were larger than those of Centers, being about \$100 million annually for rice and \$65 million for climate change.

Early in 2011, the new Fund Council chair, Inger Andersen, and the Consortium Board chair, Carlos Pérez del Castillo, visited key donors to reaffirm their support to the New CGIAR under the new arrangements. Receiving strong support from them, the Fund and the Consortium proceeded with the remaining steps toward making the New CGIAR fully operational. The Fund Council appointed Kenneth Cassman as the chair of the Independent Science and Partnership Council and Jonathan Wadsworth as the Fund Council executive secretary and head of the CGIAR Fund Office. The Consortium agreed to have its headquarters located in Montpellier, France, and initiated its formal establishment as an international organization, in addition to advancing the preparation of the SRF and the development of CRP proposals on other subjects.

In 2011, the Fund Council fully approved four CRP proposals, approved five proposals with required revisions, and approved a proposal to maintain the genebanks until a long-term financing arrangement was developed. The nine CRPs were on

- maize;
- forests, trees and agroforestry;
- wheat;
- meat, milk and fish;
- aquatic agricultural systems;
- policies, institutions and markets;
- roots, tubers and bananas;
- agriculture for improved nutrition and health; and
- water, land and ecosystems.

The following CRP proposals were also approved subject to some revisions:

- dryland systems,
- grain legumes, and
- dryland cereals.

The Fund Council requested the resubmission of the remaining CRP proposal, on humid tropics systems, for consideration in early 2012. The SRF would therefore be implemented through a portfolio of 15 CRPs, each led by a CGIAR Center.

Thus, by the end of 2011, most of the bricks that make up the New CGIAR had been laid. On the Fund front, all the legal pieces needed to make it fully operational were completed and contributions to the Fund from 24 donors had reached \$332 million by November, with total inflows for the year expected to reach \$425 million. Also, the process for establishing an independent evaluation arrangement was sufficiently advanced. There would be a single mechanism for evaluation in the system, particularly for CRPs, reporting to the Fund Council and staffed by a small group of professionals based at FAO, most likely co-located with the Independent Science and Partnership Council Secretariat. A new chair, Rachel Kyte, took over from Inger Andersen, who had been appointed to another vice-presidency at the World Bank. On the Consortium front, the agreement establishing the Consortium as an international organization was signed on 13 September 2011 by France and Hungary, opening the way for other countries to join in signing.

## Governance Principles in the New CGIAR

The New CGIAR is built on a different organizational model than the old CGIAR. Two of the four principles of the old CGIAR, donor sovereignty and independent technical advice, have become less pronounced under the new arrangements, and one principle, decision-making by consensus, remains in force in the Fund Council but does not have the significance it did in the old CGIAR. The fourth principle, Center autonomy, remains intact as a feature of the New CGIAR, though it is still unclear how arrangements for oversight and accountability will differ from those of the old CGIAR.

In addition to center autonomy, the governance model of the New CGIAR is based on three other founding principles:

- the separation of funders and doers,
- the harmonization of research funding and implementation, and
- managing for results.

It is too early to tell how well the system will be able adjust to these principles and how effectively they will be able to guide the New CGIAR.

## Drivers of Change

Major change efforts in the CGIAR over the 4 decades can be examined by using a well-known change formula that predicts organizational change initiatives to succeed only if  $D \times V \times F > R$ , where D is dissatisfaction with the status quo, V is vision of what is possible, F is the first concrete steps that can be taken toward realizing that vision, and R is resistance to the change.

Examining the CGIAR's first decade using this model shows that growth was possible partly because there was little dissatisfaction with the status quo, broad agreement on the vision to expand the network, and, supported by robust analysis from TAC, a donor community ready to take the first steps to implement individual growth initiatives. As funding did not present a problem, and the global policy environment was supportive of the changes, there was little resistance to growth.

The expansion of the CGIAR from 13 to 18 Centers took place primarily because of strong push from donors, who were dissatisfied with the existing institutional set up and prepared to take the first steps of facilitating the establishment or entry of new Centers with additional funding. Resistance came from existing Centers but was not strong enough to overcome the drive toward change.

The two major change efforts that have taken place since 2000 had similar beginnings, as dissatisfaction was strong and there was an agreed vision and readiness to take the necessary first steps. But there was stronger resistance to change in the decade's first reform initiative than in the second. Also, the change processes used in the two instances differed significantly. The steps taken in the most recent change initiative were almost textbook perfect and, as a result, yielded the most significant organizational change in the CGIAR's history.

The change formula can be used to analyze why some reform attempts did not work. In general, some of them were too early or radical for the system to digest, such as shifting to a programmatic approach, or there was stiff resistance from Centers or influential donors, such as during the many attempts to consolidate Centers.

## Lessons Learned

The 4-decade experience of the CGIAR in building and sustaining a global science network has generated a number of lessons for the donor and scientific communities alike:

- **Organization.** Finding the right balance between the differentiation and the integration of research has presented perhaps the greatest organizational challenge. The donor community was interested in an integrated system and created several mechanisms to facilitate integration among Centers. The mechanisms expanded over time as the system's mission became more and more complex. As a result, the Centers' freedom to operate was increasingly constrained as new system requirements were imposed.
- **Structure.** The existence of as many as five "axes" in its organizing framework (such as commodity, region, service, policy and natural resources) lies at the core of the difficulties the CGIAR faced in trying to come up with an optimal structure. Any reorganization of the Centers required, first, an agreement to reduce, preferably to no more than two, the axes on which the new structure would be based, but a consensus view never surfaced because the forces favoring the status quo always turned out to be greater than those against.
- **Funding.** As sources for funding were finite and known to all, and Centers bore the responsibility to raise their own funds, there was intense competition among them. When demands from the CGIAR for greater integration of Centers increased, compliance with the requests became difficult in the absence of new and additional incentives such as a "system fund" to finance system activities.
- **Accountability.** The key lesson on accountability is the need to assess each new evaluation activity comparing the added value of the information it would generate with the value of the research output that would be foregone.
- **Advisory bodies.** Notwithstanding the individuals who chaired it, the leadership role played by TAC in the system was not the same during the past 2 decades, partly because leadership by donors and Centers began to be felt more strongly, and partly because the previous financing arrangements that backed TAC recommendations were no longer in place.
- **Corporate governance.** The CGIAR system began to closely follow developments in thinking on corporate and nonprofit governance during its third decade. As a result, there was a visible transformation of Center boards from being advisory bodies to becoming governing bodies with the full fiduciary responsibilities expected of autonomous organizations.





## Conclusions

In terms of value for money, the CGIAR has been the best investment for international development over the past 40 years. The donor community has placed a bet on the potential effectiveness of an innovative institutional model based on the belief that science should be left to scientists, and the scientists left as little encumbered as possible. This model worked well when the system was small but began to show strains when it grew larger and the mission got more and more complex.

Several attempts at reform were made to “fix” the CGIAR, but most of them were evolutionary and did not generate the revolutionary change that was desired. When a revolutionary suggestion was made, it was dismissed because forces favoring the status quo were stronger than those against it.

The New CGIAR presents a much-needed revolutionary change in the CGIAR. It is too early to tell whether this new model will succeed or not. But, like the founders of the original CGIAR, it maintains as a core principle protecting the independence of the scientist and the scientific network that has evolved over 40 years as the backbone of the new programmatic thrust. This elevates the chances for its success.



Introduction

The CGIAR at 40





ON OCTOBER 30 1969, ROBERT MCNAMARA, PRESIDENT OF THE WORLD BANK, SENT TWO IDENTICAL LETTERS TO ADDEKE H. BOERMA, DIRECTOR-GENERAL OF THE FOOD AND AGRICULTURE ORGANIZATION (FAO), AND PAUL G. HOFFMAN, ADMINISTRATOR OF UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP).<sup>2</sup> THE LETTERS BEGAN:

I AM WRITING TO PROPOSE THAT THE FAO, THE UNDP AND THE WORLD BANK JOINTLY UNDERTAKE TO ORGANIZE A LONG-TERM PROGRAM OF SUPPORT FOR REGIONAL AGRICULTURAL RESEARCH INSTITUTES. I HAVE IN MIND SUPPORT NOT ONLY FOR SOME OF THE EXISTING INSTITUTES, INCLUDING THE FOUR NOW BEING SUPPORTED BY THE FORD AND ROCKEFELLER FOUNDATIONS, BUT ALSO, AS OCCASION PERMITS, FOR A NUMBER OF NEW ONES.

HOW THE CGIAR  
WAS ESTABLISHED

The CGIAR at 40



McNamara noted that the future financing needs of the four institutes — the International Rice Research Institute (IRRI), International Maize and Wheat Improvement Center (CIMMYT by its Spanish abbreviation), International Institute of Tropical Agriculture, and International Center for Tropical Agriculture — were climbing beyond the capacity of the private foundations that established them, and that there were a number of other fields, such as water management and livestock, in which well-organized research institutes could make important contributions to development. He explained his vision of the roles FAO, UNDP and the World Bank could play:

“The role which I envisage for our three agencies would not extend to active participation in the design or management of international research, although I would expect that we might be able to identify country or regional needs and priorities for research projects. I suggest, rather, that our role should be primarily to organize and administer a consortium, an international research fund or some other institutional mechanism, through which we could mobilize, on a long-term continuing basis, the resources required to maintain the existing institutions we decide to support and to develop new ones. Although I would hope that each of our agencies could make a contribution, financial or technical, to this effort, we would have to look primarily to interested donor governments and foundations for a major share of the funding.”

Boerma and Hoffman accepted McNamara’s proposal in principle, paving the way to establishing what later became the CGIAR, with FAO, UNDP and the World Bank as its cosponsors. McNamara’s ideas of a “consortium” and “an international research fund” would come to fruition 40 years later, with decisions made by the CGIAR at its business meeting in 2009. The term “consultative group” was preferred over “consortium” then because it was seen as being less formal in terms of commitments by donors.<sup>3</sup>

McNamara’s invitation to Boerma and Hoffman reflected the culmination of discussions that had been taking place in their respective agencies following the enthusiasm generated at a conference on agricultural development all three had attended 6 months earlier at the Villa Serbelonni in Bellagio, Italy, hosted by the Rockefeller Foundation (later dubbed as the First Bellagio Conference). In addition to the three, the conference brought together top officials from major aid organizations, regional development banks, countries and private foundations. The focus was on agricultural development and the need for financial assistance for institutions at the international, regional and national level. The promise of new technologies was widely accepted and the achievements of the existing international institutes recognized. McNamara mentioned the possibility of forming a consortium to raise funds for new technologies, which was seconded by John Hannah, administrator of the United States Agency for International Development (USAID), who added that the United States government would consider providing up to 25% of the amount that would be raised. The conference concluded with a decision to hold a follow-up conference a year later to consider background studies on promising approaches to be developed in the interim.

Three more Bellagio meetings preceded the establishment of the CGIAR. Bellagio II brought together technical specialists and officials of development assistance organizations and identified priority areas of research on which feasibility studies were to be conducted. The heads of agencies assembled a second time at Bellagio III, on 8-9 April 1970, to discuss and agree on the parameters of the consultative group. Bellagio IV, which actually took place in New York on 3-4 December 1970, discussed the five feasibility studies commissioned at Bellagio III, four prepared by the foundations and one by the International Development Research Centre (IDRC) of Canada. One of the studies, for an institute on semi-arid tropics in Asia, was found to be sufficiently advanced to move forward. The other four needed more work, which the soon-to-be-established CGIAR later pursued.

Much debate and discussion were needed within the World Bank to convince its board of the role the institution could play in the consultative group and of the investments it would make from the World Bank’s net income. Similar debates took place within and among the other two

cosponsoring agencies and potential donors about governance arrangements for the new consultative group. The debated issues included whether the World Bank or FAO should take the leadership role, the cosponsoring agencies should serve as an “executive committee,” and donor funds should be pooled. Participants asked how a loose consultative group could ensure the policy and financing stability needed for long-term research and developing countries could best participate in the new group. They considered what the role of the foundations should be in managing the institutes. At the end, within 2 years of the First Bellagio Conference, a consensus view on the way forward emerged and the scene was set for the first consultative group meeting.

## The First Meeting of the CGIAR

A preparatory meeting held at the World Bank in January 1971 preceded the formal first meeting, held on 19 May 1971. The preparatory meeting considered the paper *Possible Objectives, Composition, and Organizational Structure of an International Agricultural Research Consultative Group* prepared by the World Bank and agreed to forward a revised version to the first meeting. Six delegations, in addition to the three cosponsors, indicated that they were ready to join the soon-to-be-established Consultative Group: the United Kingdom, United States, IDRC, and Ford, Rockefeller and Kellogg foundations.

The first meeting was attended by 28 delegations, as had been the preparatory meeting, of which 17 expressed their readiness to become members of the Consultative Group, the newest expressions, following the January meeting, coming from Canada, Denmark, France, West Germany, the Netherlands, Sweden, the African Development Bank and the Inter-American Development Bank. The remaining 9 delegations attended as observers. The Group considered the revised paper on the organization of the CGIAR and, at the end of the meeting, adopted a resolution on the objectives, composition and organizational structure of the CGIAR. The main objectives of the Group were to

- examine the agricultural research needs of developing countries and consider how they could be met;
- attempt to ensure maximum complementarity in financing and undertaking agricultural research through international, regional and national efforts;
- consider financing international and regional research it considered high priority;
- undertake a continuing review of priorities for agricultural research related to the needs of developing countries; and
- suggest feasibility studies of specific proposals and exchange information on the results.<sup>4</sup>

The chair and the secretary of the Group would be provided by the World Bank. In addition to the agencies agreeing to join the CGIAR as members, five governments representing developing country regions of FAO would be designated to participate in the meetings of the Group as members for 2 years to ensure that the deliberations of the CGIAR included voices from developing countries.

An independent technical advisory committee (TAC) would be created, with half its members from developed countries and the other half from developing countries. TAC would (1) advise the Group on gaps and priorities in agricultural research, (2) recommend to the Group feasibility studies, (3) recommend action to the Group based on the results of the feasibility studies, (4) advise the Group on the effectiveness of existing research programs, and (5) encourage the creation of an international network of research institutions. The chair and members of TAC would be appointed by the Group, and its secretary would be provided by FAO.

The Group accepted the proposed terms of reference and composition of TAC and selected Sir John Crawford as its first chair. Crawford, an economist, was the vice-chancellor of

Australian National University in Canberra and had been serving as advisor to McNamara at the World Bank. He had a distinguished record of service in Australia for which he was knighted in 1959. The TAC led by Crawford would play a prominent role in shaping the rapid growth of the CGIAR in its first 5 years. Crawford would later serve also as the chair of the inaugural board of the International Food Policy Research Institute, which would become the 12<sup>th</sup> Center to be admitted to the CGIAR during the decade.

Along with Crawford, 11 candidates nominated by the cosponsors were appointed by the Group: George Harrar, president of the Rockefeller Foundation and one of the founding fathers of the first four research centers; David Hopper, president of the IDRC and later the fourth chair of the CGIAR; and MS Swaminathan, director of the Indian Agricultural Research Institute and known as the father of Green Revolution in India. Swaminathan would later serve the CGIAR in various other capacities: director general of IRRI, member of the Third System Review panel and chair of the CGIAR's Genetic Resources Policy Committee. He received the World Food Prize in 1987 and was named among *Time* magazine's 20 most influential Asians of the 20<sup>th</sup> Century.





## *Children for Happiness*

Several famines around the world during the period 1940-60 served as the backdrop to the creation of the CGIAR. The Rockefeller and Ford foundations' establishment of IRRI in the Philippines and CIMMYT in Mexico presaged the birth of what was christened by William Gaud in 1968 as the Green Revolution. This led in turn to the organization of the CGIAR, which became a bright, affirming flame in the midst of the sea of despair prevailing at that time. I was fortunate to have been associated from the beginning with this unique organization committed to applying the best of science to solving the problems of hunger and malnutrition.

Much has been done during the past 40 years, but there is no time to relax, as new challenges like climate change threaten sustainable food security. Marquis de Condorcet, a contemporary of Thomas Malthus, expressed the view that the population would stabilize if children were born for happiness and not just for existence. As the first requisite for child happiness is adequate nutrition, the CGIAR should have as its mandate during the next 40 years the goals of achieving “children for happiness” and “food for all and forever.” This would fulfill the hopes of the CGIAR's founders.

### **MS Swaminathan**

*Vice-Chair, CGIAR Technical Advisory Committee; Director General, International Rice Research Institute; Chair, CGIAR Genetic Resources Policy Committee and several study teams and review panels*



Norman Borlaug

## The Centers That Started It All

The establishment of the CGIAR entailed transferring nominal “ownership” of the four existing research institutes from the Ford and Rockefeller foundations to a larger investor group. The two foundations were in a sense “going public” with their investment, driven by financial need. Each foundation was investing \$3 million a year in the four institutes, but this fell way short of their funding needs. Their combined core budgets amounted to \$10 million in 1971, projected to rise to \$16 million by 1975.<sup>5</sup>

The new donors had sufficient evidence about the potential development payoff of their investments. In 1970, IRRI and CIMMYT had shared the United Nations Education, Scientific and Cultural Organization prize for science. The same year Norman Borlaug, who led CIMMYT’s wheat program, had won the Nobel Peace Prize. These prizes recognized the achievements of IRRI and CIMMYT, together with their partners in developing countries, in developing higher-yielding crops that brought record harvests and averted famine in Asia in the late 1960s and early 1970s. New wheat varieties distributed to farmers in 1961 doubled Mexican wheat yields in 7 years, making Mexico self-sufficient in wheat by 1969.<sup>6</sup> Wheat production in Pakistan rose from 3.9 tons in 1966 to 7.1 tons in 1971. Within 10 years following their introduction, new wheat varieties covered 60% of the wheat area of India and Pakistan and enjoyed similar adoption rates in other wheat-growing countries.

There were similar successes in rice. IR8, the first short-statured, or semi-dwarf, high-yielding rice variety, released by IRRI in 1966, quickly spread throughout the rice-growing areas of Asia. “After five years they [high-yielding varieties] were planted on 10 percent of the rice area in Indonesia and India, 25 percent in Pakistan and Malaysia and 43 percent in the Philippines,” reported the United States Department of Agriculture in 1978. “By 1974/75 they covered almost 30 percent of India’s rice land, 40 percent of Indonesia’s, Malaysia’s and Pakistan’s and about 65 percent of the Philippines.”<sup>7</sup> CIMMYT, IRRI and their partners in the national programs of these countries were credited with launching the Green Revolution in Asia.

The roots of CIMMYT go back to the Mexico-Rockefeller Foundation International Agriculture Program, set up in 1943. George Harrar, who later became president of the Rockefeller Foundation, led a team of scientists including Norman Borlaug and Edward Wellhausen in the Mexico program, which focused primarily on increasing the production of beans, maize, wheat and potatoes; soil management and crop protection; and improving the productivity of farm animals. Progress was slow at first, but Borlaug’s persistence paid off. He and his colleagues were able to produce a new, short-statured wheat variety in 1955 by incorporating semi-dwarfing genes that had originated in Japan. This led to the release of the first semi-dwarf Mexican wheat varieties 7 years later.

When Harrar moved to New York to take on new responsibilities for the foundation, he and his director, Warren Weaver, began exploring new ideas for agricultural development in Asia. One of them was to establish an international rice research institute. The original concept was for the foundation to provide the funds for building the institute and for the major rice-producing countries in Asia to meet its operating costs. When the latter proposition did not find favor in Asia, Harrar began to explore other means of financial support.

This saw the entrance of the Ford Foundation, which had resources and had been active in Asia, mainly with rural- and community-development projects, not with biological science. Forest “Frosty” Hill, a Canadian economist at Cornell University, had joined Ford in 1955 as a vice president. Hill was convinced that a barrier to rural and community development in Asia was the lack of appropriate technology. As he had become acquainted with Harrar during their daily commute to New York on the same train, he knew of Rockefeller’s plans regarding rice and offered a partnership in which the Rockefeller Foundation would provide operating funds and scientific expertise and

the Ford Foundation would provide capital. The boards of both foundations approved the proposal, and Robert Chandler, former president of the University of New Hampshire, was asked to set up the new institute in the Philippines. Both Harrar and Hill were on the first board of IRRI, with Harrar as chair. The institute was recognized by Philippine authorities as an international organization in 1960. Chandler began to assemble the scientific staff and develop the research program that eventually produced IR8 and the varieties that succeeded it.

Although the international research effort on wheat and maize had existed long before that on rice, the programs had not been placed in a separate institutional setting, as was the case for rice and IRRI. The push to house the wheat and maize programs in an institute came from Mexican President Adolfo Lopez Mateos after he visited IRRI in 1962 and saw the product of the Rockefeller-Ford partnership. This catalyzed the founding of CIMMYT in 1963 as a cooperative program between the Rockefeller Foundation and the government of Mexico, which was reconstituted in 1966 to make it an international center modeled on IRRI. The Rockefeller Foundation provided the funds for the new facilities and shared operating costs with the Ford Foundation. Rockefeller Foundation staff in Mexico, including Borlaug and Wellhausen, constituted the nucleus of the scientific team.

The successes in wheat and rice encouraged the Rockefeller and Ford foundations to expand their partnership to other commodities and regions of the world. Their next joint initiative was the establishment of the International Institute of Tropical Agriculture (IITA) in Ibadan, Nigeria. Unlike the cases of IRRI and CIMMYT, this time the primary focus was on an ecological zone — the humid lowland tropics of Africa — with associated research on several food crops: cowpea, pigeon pea, sweet potato, yam, cassava, and, in cooperation with CIMMYT and IRRI, maize and rice. Financing arrangements were also somewhat different from those of IRRI and CIMMYT. This time, the Ford Foundation was to provide capital costs, with the two foundations sharing operating costs. IITA was formally established in 1967 by Nigerian government decree, and the research program got going in 1970 under the directorship of Herbert Albrecht, former president of North Dakota State University.

The last pre-CGIAR institute established by the two foundations was the International Center for Tropical Agriculture (CIAT by its Spanish abbreviation) in Cali, Colombia. The concept for CIAT was similar to that of IITA, with the primary focus on the lowland tropics of the Americas and research on a number of commodities and subjects that were narrowed, over time, to beans, cassava, rice and tropical pasture. As the Rockefeller Foundation had been running a cooperative program in Colombia since 1950, it took responsibility for establishing the Center through an agreement with the Colombian government in 1967 and provided CIAT's initial staff, with Ulysses Grant as its first director. The Rockefeller Foundation provided capital costs and operating costs from 1966 to 1969. The Ford Foundation began to share the financing of CIAT's operating costs in 1969.


Thus, when the CGIAR was established in 1971, two of the four international institutes, CIMMYT and IRRI, had a considerable track record of achievements and the other two, IITA and CIAT, had barely gotten underway. The challenge for the new donor partnership was to broaden the research network to include other priority research initiatives in the context of an overall global vision.



How the CGIAR Was Established

The CGIAR at 40





THE CGIAR'S FIRST DECADE WITNESSED GROWTH IN SEVERAL AREAS. NINE NEW CENTERS WERE ADDED TO THE INITIAL FOUR, BRINGING THE TOTAL TO 13. THE NUMBER OF DONORS INCREASED FROM THE 17 THAT ATTENDED THE INAUGURAL MEETING IN 1971 TO 29 IN 1980, BRINGING TOTAL INVESTMENT IN THE CENTERS FROM \$21 MILLION IN 1972 TO \$141 MILLION BY THE END OF THE DECADE.

## 1971-80 THE GROWTH YEARS

The CGIAR at 40

This fast growth of investment in agricultural research was boosted in part by favorable developments in support to agriculture within development assistance agencies. In his address to the Board of Governors of the World Bank at their meeting in Nairobi in 1973, McNamara had announced a major policy shift toward assisting smallholder farmers in developing countries through comprehensive rural development programs. The World Bank was to increase its lending to agriculture to \$4.4 billion over 1974-79 from \$3.1 billion during the previous 5 years, with 70% of loans for agriculture containing a smallholder component. McNamara had identified support to agricultural research and the work of the CGIAR as essential to this new strategy.<sup>8</sup>

TAC played a key role in guiding the process of identifying new areas for CGIAR investment. At its first meeting it took stock of other existing international agricultural research programs run by France, the United Kingdom and the United States or coordinated by the Organization of American States and FAO and identified gaps in agricultural research geared toward developing countries: rainfed crops (including millet and sorghum), food legumes, animal health and animal production in tropical Africa, water use and management, rice development in West Africa, potato improvement in Latin America, and vegetable production in Asia. Also identified as priorities were research on agricultural systems in arid and semi-arid areas, grassland and range management, livestock production in Southeast Asia and other regions of the wetter tropics, rodent control, multiple cropping, the socioeconomic and environmental implications of new agricultural technologies, and the development of an agricultural information system for developing countries.<sup>9</sup> These topics were discussed in detail in successive meetings, using background studies conducted by top experts in each field. Each proposal was reviewed with care to establish the value it would add to the existing set of institutions. For example, reports Baum, “aquaculture (fisheries) was considered eleven times, vegetables nine times, and the water buffalo seven times during the period 1971-76.”<sup>10</sup>

TAC prepared three strategy papers during the decade. The first, endorsed by the Group in 1973, identified as top priorities for the CGIAR the cereals rice, maize, wheat, barley and millet; food legumes beans, peas and lentils; and starchy crops potato and cassava. Ruminant livestock, in particular cattle, and rangeland improvement occupied the next rung down on the ladder of priorities.

The number of Centers grew the most quickly during the CGIAR’s first 5 years, which coincided with Crawford’s term as TAC chair. The first new Center established by the CGIAR was the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). A proposal for establishing it had been discussed at Bellagio III and considered ready to move forward. Following endorsement from TAC, the Group appointed the Ford Foundation to act as the “executing agency” to establish ICRISAT. An advisory group mostly of donors interested in supporting the Center provided oversight on behalf of the Group and set up a fund to finance the establishment effort. A memorandum of understanding was signed with the government of India, which would be the host country, granting the Center recognition under the United Nations Immunities and Privileges Act. In addition, the constitution of the new Center was signed by representatives of the three cosponsoring agencies of the CGIAR<sup>11</sup> in a process that differed from the establishment of the first four institutes and reflecting the added value of the international umbrella provided by the CGIAR’s cosponsors.

Not all of the Centers brought under the CGIAR umbrella were established by the CGIAR. A center for researching potato was in early stages of development in Peru and added to the CGIAR in 1973. The International Potato Center (CIP by its Spanish abbreviation) had been built around the potato research program funded by USAID and carried out by North Carolina State University. As the board of CIP had only Peruvian and American members, TAC questioned its internationality. In response, CIP modified its bylaws to enable the inclusion of three CGIAR-nominated individuals on the board. Later, this practice became a norm in all CGIAR Centers.



## *Risk-taking Pledge*

I was fortunate to be closely involved with the CGIAR system during its first 35 years. This started in April 1972, when I was detailed from the International Agricultural Development Service of United States Department of Agriculture to the United States Agency for International Development (USAID) to serve as the agricultural economist in its Office for Program and Policy Coordination. Matters relating to the new CGIAR came under my purview, and the more I saw, the more interested I became, leading to my move to the Office of Agriculture.

The CGIAR was of great interest to the USAID at the highest levels, at which there were some remarkable and forward-looking individuals, starting with John Hannah, the USAID administrator; Joel Bernstein; and later Curtis Farrar. Years later, Robert McNamara stated in a conversation at the 2004 CGIAR meeting in Mexico City that he thought Hannah was the real risk-taker, having pledged that USAID would provide up to 25% of total funding for the Group.

This proviso proved very useful in the halcyon early years of rapid growth, to the point that one worried USAID budget officer asked me if we would be willing to settle for a maximum contribution of \$50 million. I said that it should be adequate. Subsequent administrations felt differently, though USAID remained the largest donor from 1971 to 1990, even leaving aside special projects sponsored separately by its regional bureaus and country missions. Over time, crises and shifting emphases made the funding of the CGIAR and special projects, particularly the latter, much more tenuous.

The World Bank has played a remarkable role in the CGIAR from the beginning, one that Jock Anderson and I reviewed in a 1999 report titled *The World Bank, the Grant Program, and the CGIAR: A Retrospective Review*<sup>41</sup>.

### **Dana G. Dalrymple**

*Member, United States delegation to the CGIAR; Chair or member of several CGIAR study & review teams*



## Addressing Germplasm Conservation

TAC was aware that successful crop improvement depended on the effective use of genetic diversity. This meant that the erosion of existing diversity should be prevented by conserving existing genetic material and adding to it. At its first meeting, TAC asked the FAO to prepare a paper showing what was needed to preserve and disseminate information on existing seed collections around the world and a system of coordination and control to facilitate exchanges. Papers by Sir Otto Frankel; MS Swaminathan, member and vice-chair of TAC; and FAO guided the initial discussions. It was unclear whether this matter was within the purview of the CGIAR and not that of FAO. TAC recommended creating a working group of eminent plant geneticists and breeders to formulate recommendations for international action. A similar sentiment was expressed at the United Nations Conference on the Human Environment in 1972, which called for an international program for conserving the germplasm of tropical and subtropical crops.<sup>12</sup> A workshop convened under Frankel's leadership proposed the creation of a "program" to (1) support regional and national institutions in locations of genetic diversity, (2) create nine regional genetic resources centers and a series of crop-specific centers (made up mainly of the international centers), and (3) appoint a coordinating committee and staff. TAC endorsed the main elements of the proposal. The sticky issue was whether this effort should be an expansion of FAO's existing programs or pursued through an independent coordinating committee. FAO finally agreed to an arrangement whereby the program would be under CGIAR auspices but located at FAO headquarters.<sup>13</sup>

Thus was born the International Board for Plant Genetic Resources (IBPGR), not a research organization but a service organization to promote and assist in the collection and conservation of plant genetic resources. It consisted of a 14-member board supported by a small secretariat based at FAO in Rome. Richard Demuth, who had been instrumental in establishing the CGIAR and served as its first chair in 1971-73, was appointed as the first chair of IBPGR in 1974.

The second organization added to the CGIAR in 1974 that was not a Center was the West Africa Rice Development Association (WARDA). This time, the CGIAR agreed to provide support to only the research activities of WARDA, consisting of coordinated field trials in West Africa. The CGIAR support was for a program, not for the entire intergovernmental organization of 16 member states. Strongly advocated by Crawford, this support was seen as an effective means of transferring new rice technologies from IRRI, IITA and France's Institute for Research in Tropical Agriculture to rice-growing countries in West Africa.

These two outlier models of support did not last. The "board with a secretariat" model of IBPGR was abandoned in favor of a freestanding international Center like the others, called the International Plant Genetic Resources Institute (IPGRI) and based in Rome, with a broadened mandate to conduct research as well as provide services. In the case of WARDA, the financial difficulties faced by the organization in the 1980s prompted the CGIAR to broaden its support from one program to the entire organization, with some major changes in its governance and management, but maintaining the intergovernmental nature of the apex body. IPGRI later adopted the name Bioversity International and WARDA became the Africa Rice Center.

The next three Centers established during the first 5 years were the two livestock Centers — the International Laboratory on Research on Animal Diseases (ILRAD) and the International Livestock Center for Africa (ILCA) — and the regional International Center for Agriculture in the Dry Areas (ICARDA). ILRAD and ILCA were seen as a double-barreled attack on livestock problems in Africa: a laboratory working on key diseases and a center devoted to increasing the productivity of livestock production systems, to be managed by a single board. This did not work in practice. ILRAD was established quickly in Kenya by the Rockefeller Foundation in 1973. ILCA's establishment faced many more hurdles, three key ones being an unclear concept, political upheaval in Ethiopia and the

World Bank's inexperience as the executing agency for establishing a center. In the end, ILCA was established as a separate institution in 1975. It took the CGIAR close to 20 years to bring these two Centers under unified management.

ICARDA's establishment was also affected by political upheaval. It was originally intended to be established in Syria, Lebanon and Iran, but plans for the latter two countries had to be dropped because of civil war in Lebanon and the toppling of the government in Iran. The IDRC, acting as the executing agency, and the three cosponsors signed the ICARDA charter in 1975. The agreement with Syria was signed the following year. While a promising new CGIAR Center was born, the overlaps between its mandate and those of other CGIAR Centers, notably CIMMYT and ICRISAT, plagued the system for many years.

## Establishing Mechanisms for Oversight

In addition to establishing new Centers, the CGIAR was occupied with getting its house in order. With a new chair, Warren Baum, at the helm it began to examine how the Group could best provide oversight to the entire enterprise. David Bell, executive vice president of the Ford Foundation, led a small task force to design a program-and-budget review and a monitoring-and-evaluation framework. This task force's report, adopted by the Group in 1974, served as its basic review mechanism, with minor modifications, throughout its history. The framework included annual discussion of the programs and budgets of each Center, internally commissioned reviews by the Centers themselves, periodic external reviews of Centers mounted by the Group, periodic reviews of the system as a whole, and special "stripe reviews" of activities across Centers.

Accordingly, TAC commissioned the first external, quinquennial reviews of IRRI, led by MS Swaminathan, and CIMMYT, led by Ralph Riley, of the Plant Breeding Institute in Cambridge, United Kingdom. Both reviews confirmed the excellence of the Centers' work and made some recommendations. The Group devoted considerable time at its autumn 1976 meeting to the reviews. It became clear that, in addition to advice to the boards of the Centers, the reviews provided reassurance to donors that their investments were being used effectively by these institutions. With these two reviews, the CGIAR started its tradition of having external reviews of each Center conducted at 5-year intervals.

Another Bell task force recommendation called for periodic reviews of the CGIAR. Rather than appointing an external team, the Group chose to conduct the review through a committee reflecting the views of donors, Centers and TAC, assisted by a full-time external study team. Alex McCalla, economist at the University of California Davis, was invited to serve as the director of the 4-person study team. McCalla would later play other prominent roles in the CGIAR as member and chair of TAC, cosponsor representative, and board chair of CIMMYT.

The first system review endorsed the CGIAR's strategic directions but cautioned against further expansion and made a number of observations and recommendations on a few strategic questions faced by the Group. It clarified the Groups' mission as being "to support research and technology development that can potentially increase food production in the food deficit countries of the world."<sup>14</sup> Some recommendations of the study team, such as the creation of a Group "standby committee," or executive committee, and the merger of the two secretariats into one, did not find favor with the review committee or the Group.

## Second Half of the Decade

The second half of the decade was much slower-paced than the first. The Group approached the addition of new centers with a great deal of caution. Two Centers that were outside the



CGIAR umbrella, the Asian Vegetable Research and Development Center (AVRDC) and the International Fertilizer Development Center (IFDC) received associate status but no commitment for inclusion in the CGIAR. Similarly, there was reluctance in the Group to establish a new center on the much-needed topic of global food policy research, which did not stop three members, the IDRC and Rockefeller and Ford foundations, from proceeding with the establishment of an International Food Policy Research Institute (IFPRI), with Sir John Crawford as its first board chair and its initial funding coming from the three sponsoring donors. The CGIAR provisionally gave IFPRI the same associate status as AVRDC and IFDC as TAC reviewed IFPRI's application for admission to the CGIAR. IFPRI's location in Washington, DC, was a major stumbling block for admission to the CGIAR, according to some donors, who preferred locating it in a developing country. In the end, the Group approved admission and IFPRI began receiving funding from the CGIAR in 1980, 2 years after its establishment.

The last Center the CGIAR established during its first decade was the International Service for National Agricultural Research (ISNAR), which was promoted by a group of European donors with the aim of strengthening national research systems. A CGIAR task force led by Richard Demuth recommended creating such a service to work in partnership with FAO and other organizations. The German Agency for International Cooperation (GTZ by its German abbreviation) acted as the executing agency. A European city, The Hague in the Netherlands, was chosen as its headquarters, which balanced the North American location of IFPRI. The new Center began operations in 1980 and was phased out in 2004 because of performance problems.



## Widening Focus of CGIAR Research

At its establishment, the CGIAR's main focus was on increasing food production, and its research strategy was mainly to generate high-yielding crop varieties. The focus was thus on seed and the field on which it was grown. While crop improvement remained the principal focus, attention began to be paid as well to the context of the farm on which the crop was to grow and the farmer who grew it. A farming systems approach meant examining production from the perspective of the farmer and the soil, water, climate, insect pest, disease and socioeconomic conditions under which the crop was produced. IRRI was the first Center to take this holistic approach through its Asian Cropping Systems Network and on-farm studies. Similarly, IITA began to emphasize land management systems to identify crops that could best take advantage of available land resources. Of its four programs, three focused on crop improvement and the fourth on farming systems research. ICRISAT, the first Center to be established by the CGIAR, started with a mandate that was, in part, "to develop farming systems which will help increase and stabilize agricultural production through better use of natural, human and capital resources in the seasonally dry, semi-arid tropics."<sup>15</sup> As water is the most constraining factor for agriculture in ICRISAT's region, watershed management and water harvesting were major pillars of its farming systems research. A TAC-commissioned review of farming systems research found that, aside from these three Centers, ICARDA and ILCA had a "center-wide commitment to following a farming systems philosophy in all program activities."<sup>16</sup> An important by-product of the Centers' heightened attention to research on crop management and farming systems was the transfer of these methodologies to partner research institutions in developing countries, as much of this research was done in collaboration with them.

In addition to the widening focus of Centers' research, the decade witnessed the expansion of CGIAR-supported activities from crop-based research to research on livestock and to broader factors that could constrain agricultural production, such as misguided agricultural policies, undeveloped capacity in national agricultural research systems, and the unavailability and inaccessibility of genetic resources. This was the approach the CGIAR used, led by robust analyses conducted by its TAC, to mount a frontal and multifaceted attack on problems constraining agricultural production in developing countries.

## Initial Findings on Impact

As the CGIAR neared the end of its first decade, the impact of its work attracted growing interest. By this time, IRRI and CIMMYT had been in existence long enough to show impact, but it would have been premature to expect the same from the other Centers. A study by Grant Scobie of North Carolina State University showed that by 1978 over one-third of the area devoted to rice and wheat in developing countries was sown to high-yielding varieties, which amounted to 55 million hectares. "Moreover, adoption of new varieties was continuing to expand at about 4.5 million hectares a year."<sup>17</sup> As these achievements began to be noticed globally, the CGIAR itself was also being recognized. In 1980 the Group was awarded the King Baudouin International Development Prize for its "contribution to the qualitative and quantitative improvement of food production in the world." The prize included a cash award of \$50,000, which the CGIAR used to present its own King Baudouin Award biannually to one of its Centers for outstanding research.







## 1981-90 STOCKTAKING AND ADJUSTMENT

AFTER RAPID GROWTH IN ITS FIRST DECADE, THE CGIAR STARTED ITS SECOND DECADE WITH A MAJOR STOCKTAKING EXERCISE IN THE FORM OF A SYSTEM REVIEW. THE GROUP WAS DISCOVERING HOW BEST TO OVERSEE A 13-CENTER RESEARCH SYSTEM AND FINE-TUNING ITS MECHANISMS OF GOVERNANCE, BUDGETING, MONITORING AND EVALUATION. AT THE SAME TIME, IT WAS KEEPING ABREAST OF GLOBAL DEVELOPMENTS AND, WITH THE GUIDANCE OF TAC, ADJUSTING ITS STRATEGY TO ENSURE THAT IT REMAINED RELEVANT AND EFFECTIVE.

The CGIAR at 40

At the beginning of the decade a new global development agenda was recommended by an independent commission on international development issues led by Willy Brandt, former chancellor of West Germany. Brandt had been called on by McNamara to lead what became known as the Brandt Commission or the North-South Commission. The report of 21-member commission offered a vision of a more interdependent world and called for a significant transfer of resources from the North to the South. Rich countries were asked to increase their official development assistance (ODA) to 0.7% of their gross national product by 1985 and to 1.0% by 2000 — goals that have proven to be elusive except in a few developed countries. Relevant to the mission of the CGIAR, the commission called for reducing absolute poverty in the poverty belts of Africa and Asia during the 1980s and increasing food output in low-income, food-importing developing countries during the 1980s.<sup>18</sup> Later in the decade, these global priorities would be reflected in the CGIAR agenda through, for example, the expansion of the system's focus on sub-Saharan Africa.

Another major development that affected the CGIAR was the creation of the Commission on Plant Genetic Resources by the FAO General Assembly in 1983 and the adoption of the International Undertaking on Plant Genetic Resources for Food and Agriculture (PGRFA). This nonbinding agreement, which later paved the way to an international treaty, recognized that PGRFA were the “common heritage” of humankind and called for creating a coordinated network of *ex situ* collections of PGRFA.<sup>19</sup> FAO recognized the leading role of IBPGR on the scientific and technical aspects of plant genetic resources. Some countries did not subscribe to the undertaking because of ambiguities concerning intellectual property rights — an issue that would be clarified later in the decade through further resolutions by the FAO Council providing interpretations of the undertaking and recognizing national sovereignty over PGRFA.

## The Second System Review

The second system review was conducted in 1981, true to the commitment made in 1976 to conduct reviews at 5-year intervals. As with the first review, a special review committee headed by Warren Baum oversaw the effort, assisted by a study team. Michael Arnold of the Plant Breeding Institute in Cambridge led the team. As did his predecessor, Alex McCalla, who led the study team of the first review, Arnold would later serve the system as a member of TAC and would make significant contributions to thinking on the system's evolution.

The second review did not suggest any major changes in strategy. It stressed the importance of training, networking and collaboration with national agricultural research systems (NARS) and encouraged the CGIAR to address research questions associated with factors of production through multidisciplinary research on commodities, rather than by setting up new institutes on soils, fertilizer, water, etc. This was an important recommendation as it established a guiding principle on the appropriate mix of independent research centers under the CGIAR umbrella.

The second review's conservative approach to expanding the system to include institutes working on factors of production had been tested earlier by the Group in considering the membership application of the International Center for Insect Physiology and Ecology (ICIPE) based in Nairobi, which was funded by some of the same donors included in the CGIAR. The Group was split on the issue but, in the end, arrived at a solution that kept ICIPE outside the CGIAR as an associated center but provided it with some support through the World Bank, outside the CGIAR window. In a second case, involving irrigation management, the Group followed the advice of the second review, despite the high priority TAC accorded to water management. It encouraged interested donors to establish such an institute outside the CGIAR, which was done through the leadership of the Ford Foundation. The International Irrigation Management Institute (IIMI) began to operate in Sri Lanka in 1984 (and was brought under the CGIAR umbrella in 1990).

Most of the second review's recommendations were on organizational and management matters, such as preparing 5-year rolling plans, initiating periodic management reviews of Centers, and clarifying the roles and duties of trustees that serve on boards.

The CGIAR endorsed all of the review panel's recommendations except one that called for establishing a "budget review committee." Like similar recommendations brought before donors earlier, such as the cosponsors serving as an executive committee and creating a "standby committee," the rejection of this recommendation reflected, once again, donors' unwillingness to delegate decision-making power to a smaller group.

The CGIAR's longest-serving chair, Warren Baum, retired at the end of 1983. Over his 10-year chairmanship, the number of Centers increased from 7 to 13 and of donors from 20 to 35, as their contributions increasing from \$35 million to \$165 million. The Group awarded him the title "chairman emeritus" at his retirement, recognizing his many contributions to the growth and stability of the system.

## Focus on Governance, Finance and Communication

The next two chairs to follow Baum made their marks on the system in two different spheres. Shahid Husain, a Pakistani who served from 1984 to 1987, aimed to bring clarity to the performance and accountability of Centers and their boards, which was a theme highlighted in the second system review. A team was tasked to develop guidelines for Center boards. The report of



the team, prepared by Lowell Hardin, on the roles, responsibilities and accountability of the Center boards was endorsed by the Group. Although each Center board had its own bylaws and rules of procedure, this was the first time the Group adopted a collective set of principles and guidelines. Husain repeatedly stressed that, although each Center was autonomous in terms of its governance, Centers should act *as if* they were accountable to the CGIAR. By now, attention was being paid to the composition of boards and their diversity in terms of gender and nationality, especially regarding their North-South balance. The newly started external management reviews of Centers reinforced attention to governance, management and finance. A study of budgeting in the CGIAR prompted a shift from annual to medium-term programming and budgeting. Coordinated by the CGIAR Secretariat, Center finance officers worked collectively to develop uniform accounting standards, followed by uniform auditing standards. In consultation with the Center directors, the CGIAR Secretariat initiated a series of management training courses for senior Center managers, including one for Center directors, and the program continued through 2010.

Husain was also concerned with the corporate image of the CGIAR. Until his time the CGIAR had not published an annual report. Each year, the Group received an “integrative report” providing a summary of finances and an essay on a topic of strategic importance, such as international networking. This was mainly an internal document. With Husain’s encouragement, the Secretariat began in 1984 to publish a CGIAR annual report. A similar initiative was the start of an electronic data communication network, which led to the establishment of an electronic messaging system called CGNET within the CGIAR — the first among international networks and organizations. CGNET enabled far-flung CGIAR locations around the globe to communicate electronically with their headquarters and other CGIAR locations using various forms of information and communication technology.<sup>20</sup>



## Documenting the CGIAR's Impact

In addition to improving accountability and corporate image, the CGIAR was concerned in the mid-1980s with Centers' impact. A comprehensive impact study was directed by Jock Anderson of Australia and coordinated by Robert Herdt of the CGIAR Secretariat. Frank Press, president of the United States' National Academy of Sciences, served as the chair of the advisory panel. The study showed the continuing impact of the advances made in wheat and rice and illustrated the initial outcomes of research in the newer areas. From 1970 to 1983, the use of modern varieties of wheat and rice had increased the production of these grains in developing countries by more than 40 million tons. It was conservatively estimated that the use of high-yielding varieties had increased yields by more than 0.5 tons per hectare over the increases attributable to the heightened use of inputs such as irrigation and fertilizer. The study documented the release by national authorities in developing countries of Center-based varieties of other crops through 1983, which included 238 varieties of maize, 96 of field bean, 63 of cassava and 61 of potato. The impact of these releases on production and yields in farmer fields would be assessed in later years.

The impact study showed, in addition to the improvement of food crops, the CGIAR's impact in other areas, as CGIAR institutions had trained more than 16,000 scientists by 1983, Center genebanks maintained more than one-third of the world's collection of plant genetic resources, and Centers had produced more than 5,000 publications, in addition to the contributions of other aspects of agricultural technology such as farm machinery. Most importantly, the study showed that none of these impacts was attributable to the Centers alone but to close partnerships with counterpart institutions in developing countries.<sup>21</sup>

By this time, there was evidence that the industrialized world also benefitted from the work of the Centers. The CGIAR Secretariat reported: "By 1983, about 75 percent of the wheat sown by farmers in two states of Australia contained genes from CIMMYT. In the USA, by the mid-1980s about 60 percent of the wheat and 25 percent of the rice-growing areas were planted to semi-dwarf varieties, many of which originated from material developed by CIMMYT and IRRI."<sup>22</sup>

## Adjusting Priorities

The impact study findings served as inputs to TAC's 1985 review of CGIAR priorities and strategies. This was the most comprehensive strategy exercise undertaken by the CGIAR to date, taking into account the changes taking place in development thinking globally. The emphasis placed on food production during the initial years of the CGIAR, reflected in the mission statement proposed in the first review, was modified to recognize the need for sustainability and focus on poor people, particularly in Africa. As redefined, the CGIAR's mission was "through international agricultural research and related activities to contribute to increasing sustainable food production in developing countries in such a way that the nutritional level and general economic well-being of low-income people are improved."<sup>23</sup> The review also identified four major program thrusts for the work of the CGIAR:

- enhancing sustainability through resource conservation and management,
- increasing the productivity of commodity production systems,
- improving the policy environment, and
- strengthening national research capabilities.

Thus, the CGIAR was to focus attention not only on food production but also on how that production affected the natural resource base used during production. As attention focused on rainfed and marginal areas, the fragility of the ecosystems had become more apparent and attention paid to the natural resource base had increased. The recent report by the Brundtland Commission had elevated the significance of shifting to more sustainable forms of development.<sup>24</sup>

This explicit attention to natural resources and their management added yet another dimension to the research that Centers would conduct. The expansion of the CGIAR's focus from breeding to crop management and farming systems seen in the 1970s was being broadened further with the inclusion of the conservation and management of natural resources. TAC led the intellectual effort to clarify the issues involved and built the case for adjusting the CGIAR's strategy.

When David Hopper took over as CGIAR chair from Husain in 1987, the system had started to shift its strategic direction. Besides sustainability, the CGIAR recognized the need for greater attention to the needs of Africa through a CGIAR task force headed by the previous TAC chair, Guy Camus. In addition, the potential of biotechnology to speed plant breeding was becoming more apparent. It was increasingly recognized that improving nutrition depended more on economic access to food than on its supply.

Hopper had been one of the founding fathers of the system from the Bellagio days, when he represented the IDRC; he later served as a member of the first TAC under Crawford. He was a student of science, particularly agricultural science, and was deeply interested in understanding the interactions of soil, water, nutrition and other factors in crop growth. As he remarked at the 25<sup>th</sup> anniversary of the CGIAR, "The long term goal of the CGIAR scientists must be to unlock the many secrets of the sunlight-plant-water-nutrient-soil relations that are the fundamental blocks upon which agricultural science rests."<sup>25</sup>





## Governance and Sustenance

For half of 1973 I had the privilege of being half of the fledgling Economics Program at CIMMYT, where I first had the opportunity to reflect on assessing the impact of CGIAR research. Being director of the mid-1980s study of the impact of the CGIAR<sup>21</sup> gave me a special chance to observe the evolution of the CGIAR system to that point and to appreciate the value of documenting impact — nicely addressed in recent times by the Standing Panel on Impact Assessment under Jim Ryan and, later, Derek Byerlee — to help sustain support for the system's generation of the global public goods, for which it is justifiably proud. Later, from the vantage point of the World Bank, I welcomed occasions to see at first hand<sup>41, 69</sup> the importance of that institution in the governance and sustenance of the system, which is well charted in this new historical study. I regret that John L. Dillon, my friend and former colleague at the University of New England, is not around to share the excitement of the New CGIAR facing up to the challenges of its second 40 years.

### **Jock R. Anderson**

*Center staff, International Maize and Wheat Improvement Center & International Service for National Agricultural Research; Director, CGIAR Impact Study; Chair or member, several CGIAR external review panels*

During his chairmanship from 1987 to 1990, Hopper steered the CGIAR to investigate its need to further expand and thereby strengthen its capacity to address concerns related to sustainability. At the CGIAR midterm meeting in 1988 held at the Reichstag in Berlin, the agenda included reviewing the implications of the Brundtland Commission report, a paper by TAC on sustainability and a paper on the CGIAR's relationships with unassociated centers, meaning centers outside the CGIAR but supported mostly by the same donors. The discussions informed the Group's decision to ask TAC, through its new chair, Alex McCalla, to examine the possible expansion of the CGIAR to include 10 additional centers: AVRDC, the International Board for Soil Research and Management, ICIPE, the International Center for Living Aquatic Resources Management (ICLARM), the International Centre for Research in Agroforestry (ICRAF), the IFDC, IIMI, the International Network for the Improvement of Banana and Plantain (INIBAP), the International Union of Forest Research Organizations, and the International Trypanotolerance Centre.

While discussions were going on in the CGIAR forum on the issues of sustainability and possible expansion, Africa was witnessing one of the CGIAR's most spectacular research achievements since the Green Revolution: the biological control of a devastating insect pest of cassava. The cassava mealybug, a pest in cassava's native South America, had reached Africa and was spreading rapidly because it had no natural enemies there and causing cassava losses of up to 80%. Scientists at the Commonwealth Institute of Biological Control discovered that there was a natural enemy of the mealybug in South America, the parasitic wasp *Epidinocarcis lopezi*. IITA staff brought the wasp to Africa, multiplied it and released it from the air at 150 locations over infested areas. By the late 1980s, cassava production in Africa had risen by 10.2 million tons per year. The economic returns from this research were estimated to reach \$9 billion — far exceeding all CGIAR investment in Africa.<sup>26</sup> The principal CGIAR scientist involved, Hans Herren, was later awarded the World Food Prize in 1995 for his work on mealybug control.

## Expansion of the CGIAR

The TAC study on expanding the CGIAR remains one of the most elegant strategic analyses of the system ever undertaken. The exercise reviewed the role of the CGIAR in global research and development, developed a vision and a new goal, identified the types of activities that could be supported to achieve that goal, and explored how they could be carried out by existing institutions and additional institutions or initiatives. During this exercise, the CGIAR's 1989 midterm meeting in Canberra adopted, preemptively, its *Declaration of Intent* to expand its mandate to include research on renewable resources related to agriculture, specifically forest resources. TAC proposed a new CGIAR goal a year later to incorporate this decision: "through international research and related activities, and in partnership with national research systems, to contribute to sustainable improvements in the productivity of agriculture, forestry, and fisheries in developing countries in ways that enhance nutrition and well-being, especially among low income people."

Along with the new goal, TAC defined two categories of activity for the CGIAR in the medium-term: (1) global, on commodities and selected subjects like policy, and (2) ecoregional, on agro-ecological zones and ecosystems that are defined regionally. It identified high-priority activities under each category. Instead of focusing solely on Centers or institutions, TAC stressed the need to examine as well such global or ecoregional mechanisms as networks, consortia, joint ventures and programs.

After careful analysis, TAC recommended that (1) AVRDC, ICLARM and IIMI be included in the CGIAR, subject to some conditions; (2) the CGIAR start a new forestry and agroforestry initiative, with a modified ICRAF as a component and support for the International Union of Forest Research Organizations considered later by this new initiative; (3) INIBAP become a component if IITA's banana program; (4) ICIPE, the International Board for Soil Research and Management and the





IFDC remain outside the CGIAR but with programmatic links with CGIAR institutions, and possible links with the International Trypanotolerance Centre be decided later, following a study that was under way on livestock in Africa.

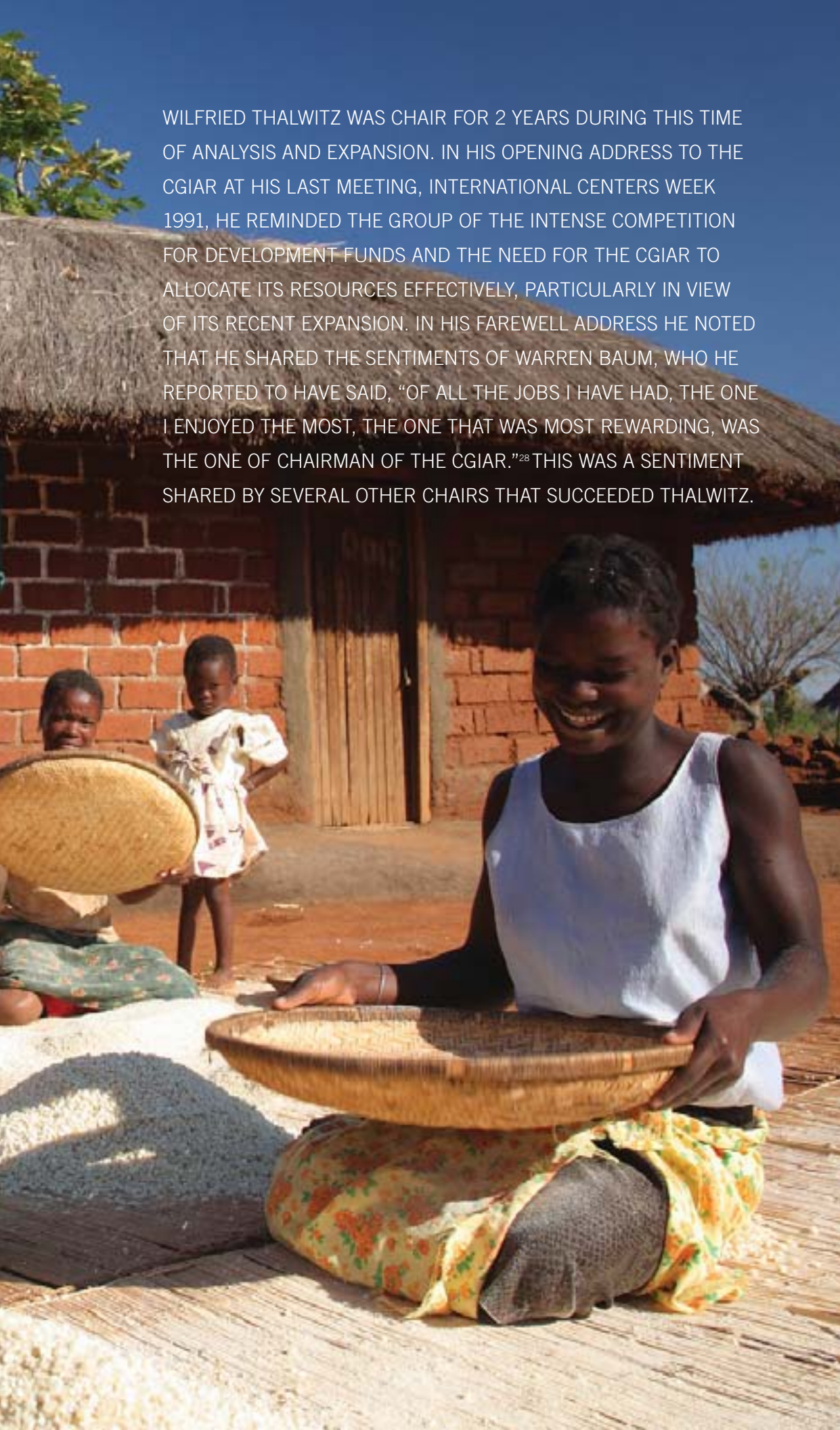
These recommendations were discussed at the 1990 International Centers Week, the autumn meeting of the CGIAR, under the chairmanship of Wilfried Thalwitz, who had succeeded David Hopper upon the latter's retirement earlier that year. After heated discussions, as well as sideline negotiations, the Group took issue with TAC's recommendations on forestry and agroforestry and research on banana and plantain. Some donors, including Germany, were strongly convinced of the need for a separate forestry initiative and ready to support it. At the same time, ICRAF (and its supporters, led by Canada) were unwilling to make the change to ICRAF as recommended by TAC. The Group therefore decided to include ICRAF in the CGIAR and establish a new and separate center for forestry, which eventually became the Center for International Forestry Research (CIFOR). Australia agreed to help establish the new Center, with the Australian Centre for International Agricultural Research as the implementing agency. Regarding INIBAP, the Group decided to maintain it as a separate innovative network with programmatic links with IITA.

This meant that the Group was prepared to add six new centers or networks — AVRDC, ICLARM, IIMI, ICRAF, INIBAP and a new forestry center — to its existing 13 Centers. While all previous studies on CGIAR priorities, including the expansion study, had shown the importance of research on vegetables, the proposed admission to the CGIAR of AVRDC, headquartered in Taiwan, posed a political problem, as China had joined the CGIAR in 1984. Consequently, the CGIAR decided to delay a decision on AVRDC because it “appreciated the need for political developments to mature.”<sup>27</sup>

Thus, the 4-Center network that started in 1971 had become an 18-Center enterprise 2 decades later. Its initial focus on increasing food production through plant breeding had been broadened significantly with new areas of research. The question that loomed in everyone's mind was whether the Group would have adequate resources to support this enlarged network and greatly expanded research portfolio.



WILFRIED THALWITZ WAS CHAIR FOR 2 YEARS DURING THIS TIME OF ANALYSIS AND EXPANSION. IN HIS OPENING ADDRESS TO THE CGIAR AT HIS LAST MEETING, INTERNATIONAL CENTERS WEEK 1991, HE REMINDED THE GROUP OF THE INTENSE COMPETITION FOR DEVELOPMENT FUNDS AND THE NEED FOR THE CGIAR TO ALLOCATE ITS RESOURCES EFFECTIVELY, PARTICULARLY IN VIEW OF ITS RECENT EXPANSION. IN HIS FAREWELL ADDRESS HE NOTED THAT HE SHARED THE SENTIMENTS OF WARREN BAUM, WHO HE REPORTED TO HAVE SAID, "OF ALL THE JOBS I HAVE HAD, THE ONE I ENJOYED THE MOST, THE ONE THAT WAS MOST REWARDING, WAS THE ONE OF CHAIRMAN OF THE CGIAR."<sup>28</sup> THIS WAS A SENTIMENT SHARED BY SEVERAL OTHER CHAIRS THAT SUCCEEDED THALWITZ.



The next CGIAR chair, Visvanathan Rajagopalan, also served for 2 years (1991-93). By the time he took over as chair, the system had grown to 17 Centers, with the 18<sup>th</sup>, CIFOR, being established in Indonesia. The number of Center staff had reached 12,000 and of internationally recruited staff 1,300, 12% of the latter being women. But this growth was not being matched with a proportionate increase in financial resources. For 1992 the Group had approved programs requiring the expenditure of \$332 million, while the pledges of members came to only \$251 million. Contributions to the original 13 Centers were declining in real terms for the third year in a row, while the new Centers sought increased funding. The system was heading toward a crisis. While endorsing the new priorities recommended by TAC, Center representatives — the Committee of Board Chairs (CBC) and the Center Directors Committee (CDC) — voiced deep concern and argued that the solution lay in coming up with a new, clear systemwide strategy.

Rajagopalan heeded the advice of the Centers. As his first act he convened a consultation in February 1992 in London moderated by Walter Falcon, the board chair of IRRI and one of the strongest voices calling for change. The results of the consultation were reported at the midterm meeting in May in Istanbul. The major message was that “business as usual” was not acceptable because of the following concerns:

- organizational issues: the lack of a committee structure to facilitate decision-making, bureaucratization, excessive reliance on TAC, the length of CGIAR meetings and weak relations with the private sector;
- funding issues: the mismatch between funding supply and demand for funding and inequitable resource allocation;
- communication issues: weak communication internally and externally, the failure to tell success stories, and the need for more information on impact;
- substantive issues: the system losing its focus, clarity lacking on upstream-downstream research and on ecoregional research, and the need to include the countries of the former East Bloc among the target countries of the CGIAR.

With this as a backdrop, the Group agreed with TAC that the priorities for research identified during the most recent (and comprehensive) assessment should guide the allocation of resources. TAC had identified resource envelopes for each Center that corresponded to the agreed priorities. In preparing their 5-year plans, the Centers were asked to assume that their “core” funding would remain unchanged over the 1994-98 planning period. In addition, the Group established a working group, headed by Robert Herdt, to examine the deliberation and decision-making processes of the CGIAR and offer recommendations for improving effectiveness and efficiency.

Business was not as usual in the CGIAR over the next 12 months. The Herdt working group’s recommendations led to the establishment, for the first time in CGIAR history, of two standing committees, one on oversight and the other on finance. The work of two task forces, one on livestock and the other on banana and plantain, informed a decision at the midterm meeting in Puerto Rico to integrate ILCA and ILRAD into a single livestock Center and to bring INIBAP’s activities under the governance and administrative structure of IPGRI. The Centers rearranged their internal organization to generate the new Public Awareness and Resources Committee (PARC), which was to improve communication and fundraising in collaboration with the Secretariat. The newly formed CGIAR committees quickly identified key areas to address. The Oversight Committee would tackle the system’s vision and strategy, central structure, and relations with developing countries. The Finance Committee would examine the role of the World Bank as a “balancing donor,” the resource-allocation mechanism and the resource-mobilization strategy.

While these changes appeared to be in the direction agreed at the London meeting, they were not likely to have an immediate impact. The research agenda of the CGIAR was getting more and more complex. In addition to grappling with the expansion of its mandate, the CGIAR was trying



to identify how best to organize its TAC-recommended ecoregional activities. Demand for additional activities were emanating from Agenda 21 of the Environment and Development Conference in Brazil, the “Earth Summit” as it was called, which brought home the message that economic and social development could not be addressed in isolation from the environment. Three of the global initiatives introduced at the summit would have continuing relevance to the CGIAR for years to come: the Convention on Biological Diversity,<sup>29</sup> Convention to Combat Desertification, and Forest Principles.

As for the funding outlook, it looked grim. The share of ODA going to international agricultural research had dropped from 0.6% in 1986 to 0.5% in 1991 and was expected to decrease further. The approved Center programs for 1998, on the other hand, required an annual increase in funding of 15% in real terms. A budgetary solution such as decreasing each Center’s budget by a certain percentage would not have been appropriate over the long term as it would have ignored priority differences among programs. Budgetary issues needed a scalpel, not a machete, and the Group asked TAC “to initiate a critical examination of the present coverage of activities, programs and regions because the current funding levels in the medium-term will require a repositioning of programs and institutions; and to present MTM94 [the 1994 midterm meeting] with options for restructuring.”<sup>30</sup>



## A New Chair with a New Vision

When he took over the chair from Rajagopalan the next January, in 1994, Ismail Serageldin knew that he had few options. Centers had been downsizing staff since the start of the financial crisis, recruitment had come almost to a standstill, and expenses were under a tight rein. Attending scientific meetings, for example, had become a luxury. In short, because they were declining, budgets began to drive the CGIAR research agenda, not the other way around.

One option was to restructure the system so that it would operate at a lower budget by closing Centers or merging them into fewer operating units. As requested, TAC was already working on a plan for this. The other option was to agree on reform of the system from head to toe to induce donors to increase their funding. But reform would take time, and there was an immediate need for infusions of additional funds to avoid disrupting research any further.

Serageldin chose the latter approach. He first asked McCalla not to submit TAC's restructuring proposals until he had a chance to discuss with the CGIAR community his ideas for reforming the system. He then consulted with donors, Centers, TAC, cosponsors and partners. Next, he sought and received help from the heads of the CGIAR's cosponsoring agencies — Lewis Preston at the World Bank, Jacques Diouf at FAO and Gustave Speth at UNDP — in appealing to the heads of donor agencies for increased funding for the CGIAR. The World Bank subsequently agreed to provide to the CGIAR a one-time special grant of \$20 million for 1994/1995 over and above its regular funding, to be used as a 1:2 match against similarly additional funding from other donors, provided that the Group was ready to implement a clear plan of reform.

Serageldin's reform plan, approved by the Group at its 1994 midterm meeting in Delhi, had the following features:

- a new vision statement and refocused research agenda;
- governance and management reforms to ensure predictability, transparency and accountability;
- NARS perspectives fully integrated into the CGIAR's policy framework;
- more effective linkages with farmers' groups (especially women's groups) and nongovernment organizations (NGOs) and the private sector; and
- a comprehensive plan of action based on the features above to be ratified by senior officials at an international conference.

Work on some of these elements had already started during Rajagopalan's term. A panel commissioned by the Oversight Committee and headed by Gordon Conway, vice chancellor of Sussex University, had been preparing a new vision statement. This and the committee's proposals for strengthening the CGIAR's governance and organization were discussed extensively at the Delhi meeting. The Group's consensus was in favor of a CGIAR (1) that would lead setting the global agenda regarding international agricultural research, (2) with the vision of eliminating poverty and hunger, (3) that was a more open and collaborative system, and (4) with a focus shifting toward programs.

Serageldin saw a need to consolidate the leadership of the system to steer changes more effectively during the planned reform program. He proposed, and the Group agreed to, forming a steering committee under his chairmanship and bringing together the members of the Finance and Oversight committees. This steering committee would later be transformed into a consultative council with the inclusion of representatives of cosponsors and other new units created during the transformation and continue throughout Serageldin's 6-year term as chair. This enabled the chair and the World Bank to be fully in charge during the CGIAR's first major crisis.



Another of Serageldin's contributions was to bring clarity to the CGIAR's research agenda. Financing questions would be addressed more easily if the Group had an unambiguous research agenda. Serageldin proposed remapping the entire CGIAR program into a research agenda matrix with Centers in rows and programs in columns. Once agreement was reached with the help of TAC on the content of the columns, donors would be able to provide funding to either rows (Centers), columns (programs), cells (projects) or the entire matrix (the system). Center activities outside the matrix would not be considered part of the agreed research agenda and ineligible for World Bank funding. Once agreement was reached on a research agenda each year, the Centers and the Finance Committee would be able to develop financing plans to have the agenda funded in full.

The 1994 midterm meeting in New Delhi was a platform for initiating dialogue on ways of more fully integrating the concerns of developing countries into the formulation of global priorities for research. Following a fervent statement made by the International Fund for Agricultural Development (IFAD) about the critical role of NARS in the technology continuum, the chair asked IFAD to help organize a dialogue to strengthen the voices of NARS in setting and implementing the international agricultural research agenda. Accordingly, IFAD organized an international consultation, titled *Towards a NARS' Vision on International Agricultural Research*, in Rome. Some 80 NARS leaders participated. The outcome of this event was one of the inputs to the Lucerne ministerial-level meeting in 1995.

The rest of 1994 was spent preparing other components of the reforms for endorsement at the planned ministerial-level meeting. A panel headed by Klaus Winkel of Denmark developed





recommendations for improving system governance; another panel headed by MS Swaminathan prepared options for handling intellectual property rights; the Genetic Resources Policy Committee and a systemwide program on genetic resources were initiated; and task forces on sustainable agriculture topics, including integrated pest management and ecoregional approaches, recommended future CGIAR strategy in their areas.

From a governance standpoint, a notable event in 1994 was the signing of a formal agreement between the CGIAR Centers and FAO during the annual meeting of the CGIAR, placing the genetic resource collections of the CGIAR Centers under the auspices of FAO's Commission on Plant Genetic Resources, as was called for by the International Undertaking on PGRFA. On the CGIAR side, the signing was done not by individual Centers but by the CGIAR chair on behalf of the 12 Centers holding such collections, exercising signing powers delegated by the boards of these Centers. This was the first (and only) formal delegation of authority from the Centers to the CGIAR chair.

The new chair's efforts appeared to be paying off. The research agenda for 1994 was funded in full, and indications were the same for 1995. Questions remained, though, about the integrity of the research agenda and budget, as it now included some activities that were formerly classified as "special projects" and not subject to TAC scrutiny. Classifying them as part of the research agenda, and counting their funding as new contributions to the CGIAR, meant that the one-time \$20 million in additional funding from the World Bank could be used in full because of the requirement to have a 1:2 match between its contribution and the additional funding provided by donors.<sup>31</sup>

## Ministerial-Level Meeting in Lucerne

A highlight of the decade was the ministerial-level meeting of the CGIAR in Lucerne, Switzerland, in February 1995, attended by ministers, heads of agencies and delegates representing 39 CGIAR members. The meeting adopted a declaration and action plan to kick-start a renewed CGIAR. Its main elements included

- a new and shorter mission statement “to contribute, through its research, to promoting sustainable agriculture for food security in the developing countries;”
- a broadened partnership with a larger number of developing countries participating as active members and improved dialogue with NGOs and the private sector through the establishment of NGO and private sector committees;
- a research agenda concentrating on strategic and applied research for generating international public goods<sup>32</sup> toward increasing productivity, protecting the environment, saving biodiversity, improving policies, and strengthening NARS in developing countries, particularly in South Asia and sub-Saharan Africa;
- a strengthened assessment of CGIAR’s performance and impact through a new independent evaluation function;
- a negotiation-and-review process among all members to ensure the full funding of the agreed research agenda; and
- the inclusion of the United Nations Environment Programme as a cosponsor of the CGIAR.

**Systemwide programs.** The renewal of commitment to the CGIAR by the heads of its major donor agencies in Lucerne brought a new optimism to the system. The bleeding felt by most Centers had been stopped. New systemwide programs were being initiated after careful review by TAC, now chaired by Don Winkelman, the former director general of CIMMYT, to integrate the work of Centers and partner organizations toward solving regional or global problems. These were the Rice-Wheat Program for the Indo-Gangetic Plains, Latin American Hillside Program, Alternatives to Slash and Burn Program, and Sustainable Mountain Agricultural Development Program, in addition to the existing Systemwide Genetic Resources Program. The system’s expansion and the redefinition of the research agenda affected how resources were allocated among the CGIAR’s five priorities, as “protecting the environment” had seen a 50% increase from 1992 to 1996, and “saving biodiversity” a 25% increase, at the expense of the other three priorities.<sup>33</sup>

**Opening the system.** Efforts to open up the system proceeded quickly. Five developing countries — Colombia, Côte d’Ivoire, Egypt, Iran and Kenya — joined the CGIAR, bringing the Southern membership to 13. Although their funding contributions were mostly the minimum \$500,000 per year required for membership, this bought the opportunity to fully participate in CGIAR decision-making along with members contributing much more. Another new effort was to modify CGIAR planning processes to enable developing countries to participate in regional priority-setting through regional fora, as had been recommended by the Winkel panel in 1994. In addition, two new CGIAR committees were established to strengthen dialogue with NGOs and the private sector. The NGO Committee and the Private Sector Committee would become mainstays in the CGIAR landscape for at least 6 years, as perspectives from these communities contributed to the discussion of the CGIAR business agenda. The NGO Committee would become dormant in 2002, but the Private Sector Committee would continue until the reforms of 2009.

**Impact assessment and evaluation.** Another important function initiated following Lucerne was the Impact Assessment and Evaluation Group (IAEG), with Jim Peacock of Australia as chair, to strengthen ex-post impact assessment and evaluation in the system. The IAEG was to work with the evaluation professionals in the Centers, help build a stronger impact culture in the system and commission studies to document CGIAR impact. It played an important catalytic role in elevating the importance of

impact studies and contributed to learning from experience and to accountability. Initially working alongside TAC as an independent group reporting to the Consultative Group, it was later blended into the TAC structure as an independent standing panel and continues to operate under that framework to this day.

**Governance and finance.** Reforms in governance and finance continued along the lines agreed in Lucerne. The Finance Committee began to play a critical role in balancing funding needs and availability, paying special attention to Centers that had been affected most by the funding shortages. As a result, agreed research agendas were funded in full in 1995 and 1996. The Oversight Committee helped monitor the implementation of actions agreed in Lucerne and advocated additional steps to improve governance. One of these was in Center governance. At the request of the committee, the CGIAR Secretariat prepared a new set of guidelines for Center boards, in cooperation with the CBC and the National Center for Nonprofit Boards in Washington, DC, to reflect current best practice in corporate governance. The committee began monitoring the composition of Center boards in terms of their gender and South-North nationality balance, to gently pressure boards with serious imbalances in their composition. The committee recommended commissioning a system review, as there had been no comprehensive examination of the CGIAR since the second review in 1981.

**Public awareness and resource mobilization.** The financial crisis alerted the Centers and the Secretariat that, without a concerted and rigorous public-awareness and resource-mobilization effort, the CGIAR would remain a little-known enterprise. The PARC, led by the CDC, took the lead in organizing various activities in selected countries such as high-level visits; producing customized publications, media campaigns, conferences and exhibits; forming “friends of the CGIAR” groups; and ensuring a presence at international meetings and scientific conferences. The United States, Canada, Japan, Spain and Germany were among the first group of target countries, which expanded over the years to include practically all donor countries. Holding the midterm meeting in a different country each year provided an opportunity for a major public awareness campaign in that country — in the 1990s, France, Turkey, Puerto Rico, India, Kenya, Indonesia, Egypt, Brazil and China. The stronger emphasis on documenting the CGIAR’s impact provided, over time, convincing evidence of high returns on investments in agricultural research. The Centers created a new foundation called Future Harvest as a nonprofit, tax-exempt organization in the United States to complement the work of PARC and the Secretariat, promote the system, and generate additional funds for Centers. Future Harvest and the Centers strongly advocated changing the “CGIAR” brand, but this did not find favor with some members, especially developing countries. Nevertheless, the Centers decided to adopt the Future Harvest brand by calling themselves Future Harvest Centers of the CGIAR, which was endorsed by the Group at its midterm meeting in Dresden, Germany, in 2000.

The Future Harvest experience demonstrated the Centers’ collective will to assume greater ownership of the system. This was, in part, because they considered the chair’s and the Secretariat’s public-awareness and fundraising efforts inadequate. Two parallel tracks operated simultaneously, often with little coordination as each reported to a different body. Various steps were taken to blend the two, such as through PARC and later the System Office, and even co-locating the Future Harvest Foundation in the Secretariat offices at the World Bank, but without much success. The foundation eventually became dormant, though the name and the organization still exist in the United States.

## Changing Power Structure

During the CGIAR’s first decade, TAC was undoubtedly the most powerful body in the system. Donors were prepared to invest in research, and the advice given by TAC largely determined where these investments should be channeled. TAC’s authority stemmed from the quality and thoroughness of its analysis and the personal stature of its members and chair. This situation continued through most of the second decade when the donors needed guidance on strategy as well as assurance that the science practiced by the Centers continued to be top quality.



## *A Lot to Celebrate*

As an individual whose career evolved from a position as temporary research technician to research scientist, and on to manager and ultimately to chief executive in the CGIAR system, I can very much appreciate the mission, work and evolution of the CGIAR as it reaches 40 years. The CGIAR has achieved great things: new crop varieties, new approaches and instrumental policy advice.

The CGIAR has been sustained over the past 4 decades thanks to those who believe that agricultural development cannot be achieved without the pulling effect orchestrated by research. The merit of the successes of the CGIAR lies in its commitment to improving the lives and income of those whose survival depends on agriculture.

Having now become the head of an institution dedicated to improving the lives of the rural poor, I celebrate that CGIAR Centers have become important partners in the pro-poor development agenda of the International Fund for Agricultural Development.

The CGIAR has a lot to celebrate: generating new technologies, building the capacity of partners in developing countries, training first-class scientists and contributing to the debate on food policy. As the importance of food security receives prominence on the global agenda — be it articulated by the Group of Eight, Group of Twenty or United Nations — the work of the CGIAR has become more relevant than ever. I congratulate the Group on its work.

### **Kanayo Nwanze**

*Center staff, International Crops Research Institute for the Semi-Arid Tropics;  
Director General, Africa Rice Center; President, International Fund for Agricultural Development*



Rarely did the Group disagree with the recommendations of TAC on scientific and technical matters. TAC's advice on Center budgets was needed to ensure that Center activities accorded with the agreed priorities of the system and that the World Bank, serving as the balancing donor or donor of last resort, would allocate its contributions to the Centers to fill gaps in priority areas left unfunded by the contributions of other donors. This way, the World Bank would ensure that the TAC-approved budgets of Centers and, therefore, the activities identified as priority would be financed.

This situation began to change toward the end of the second decade. Many donors in tune with the global development agenda were keen to have the CGIAR closely follow these trends, irrespective of any contrary advice from TAC. To maintain or increase their contribution to the CGIAR, donor representatives felt they needed to have evidence showing the CGIAR's responsiveness to global developments. Thus, at the CGIAR midterm meeting in Canberra in 1989, the Group decided to expand the mission of the CGIAR to include forestry while TAC was still working on the CGIAR-requested study on expansion. When the study was completed a year later, donors chose not to follow TAC advice on research on forestry and agroforestry, deciding instead to have two separate institutes working in these two areas. In short, political considerations began to outweigh scientific and technical concerns in the CGIAR.

When the CGIAR experienced a financial crisis at the beginning of the third decade, in part because the expanded number of institutes was not matched by a similar increase in funding, the Group first expected TAC to provide the answers for operating within its means but later, in response to the plea from Serageldin, decided to seek increased funding. One consequence, as noted above, was the dilution of the core research portfolio and the sidelining of TAC advice. With the arrival of Serageldin the locus of power in the CGIAR had shifted significantly from TAC to the Group chair. A change in the manner in which the World Bank's contributions to the Centers were allocated further weakened the Group's resolve to channel its funding to the highest-priority activities. Instead of serving as a balancing donor, the World Bank decided to parallel the contributions of other donors according to a matching formula. This meant that the largest contributions flowed to the most popular activities, which were not necessarily what TAC viewed as the highest-priority items on the CGIAR research agenda.

As the power balance in the CGIAR shifted from TAC to donors, another group steadily gained more voice and influence. The CDC, which functioned somewhat as a social club during its

first 2 decades, began to operate more effectively, conveying common concerns of the Centers to the CGIAR forum. Center directors became more aware of the benefits of collective action, and the CDC became better organized than in earlier years. While the CDC concerned itself with strategic issues such as collective Center policies on genetic resources, intellectual property rights and biotechnology, their deputies, who handled administrative and technical matters, formed a separate group. Thus, a new power balance began to emerge, with power more evenly spread among the financing, advisory and operational arms of the CGIAR: donors, TAC and Centers.

## The First Global Forum

The Lucerne event generated momentum toward a group of members and Centers — led by IFAD and including the World Bank, FAO, Switzerland, the Netherlands and ISNAR — facilitating a series of meetings of NARS in Africa, Asia, Middle East and North Africa to explore the needs of and opportunities for agricultural research and identify practical means of collaboration. Following a 2-year consultative process, the first Global Forum on Agricultural Research (GFAR) was convened just before the CGIAR's 1996 business meeting. This marked the first time that various components of the global agricultural research system came together. GFAR brought together representatives of four regional fora in (1) Asia and the Pacific, (2) Latin America and the Caribbean, (3) sub-Saharan Africa, and (4) West Asia and North Africa, as well as participants from advanced research institutions, NGOs, the private sector and the CGIAR. Chaired by Fawzi Al-Sultan, president of IFAD, GFAR adopted, after a day and a half of deliberations, its Declaration and Plan of Action for Global Partnership in Agricultural Research, which was later presented at the World Food Summit in Rome in November 1996.

In the declaration, the participants affirmed their “strong commitment to contribute to the development of productive, sustainable and equitable agriculture” and urged that research partnerships be “governed by the principles of subsidiarity, participatory decision making, complementarity of efforts, adaptability, openness and, above all, a deep sense of commitment to the common purpose.” The plan of action called for mobilizing resources to strengthen NARS and the regional and subregional fora and for convening GFAR every 3 years.<sup>34</sup>

The convening of GFAR underscored the interconnectedness of the global agricultural research system and the relatively small role played by the CGIAR, representing only 3% of the annual investment in research geared to agriculture in developing countries. A more connected and responsive CGIAR would need to regard global developments more closely and act to maintain its relevance. The chair and the Centers already shared responsibility for representing the CGIAR in various global fora, as ICRISAT took the CGIAR lead at the Desertification Conference in Paris in 1994 and IFPRI performed the same role at the Conference on Population and Development in Cairo the same year.

## Reaction to Global Developments

During the rest of the decade the CGIAR responded, in a deliberative manner, to three major global developments: the break-up of the East Bloc, the increased focus on genetic resources and intellectual property rights, and systematic attention to gender issues.

**Eastern Europe and the former Soviet Union.** The CGIAR had taken a cautious stance in Lucerne toward expanding its operations to Eastern Europe and the countries of the former Soviet Union because of funding constraints. A task force headed by Rudy Rabbinge of the Netherlands explored needs and opportunities and found compelling reasons for expanding the CGIAR mandate to encompass this region. Recognizing that the needs of the two subregions — Central and Eastern Europe, and Central Asia and the Caucasus — were quite different, the task force recommended a two-pronged strategy calling for the CGIAR's more engaged involvement in Central Asia

## *Personalized and Unpoliticized*

Sweden joined the CGIAR in 1973, and I joined the CGIAR in June 1981 at the European donors meeting, which was chaired by CGIAR Chair Warren Baum and attended by incoming TAC Chair Guy Camus. The issues covered were complex, expressed in strange language and an enormous number of acronyms. The second review of the CGIAR was on. Among the issues covered, following the revision of the International Union for the Protection of New Varieties of Plants 1962, were plant breeders' rights, finished varieties and the role of the CGIAR. This was to me a new and extremely interesting topic, as my master's and PhD theses dealt with biological matters, local farmers, states and markets.

Over the years Sweden has been active, initiating several system activities: studying the role of national agricultural research 1977, the impact study of 1982-85, and formulating the CGIAR statement to the Rio Earth Summit in 1992, all led by Bo Bengtsson; the establishment of the Genetic Resources Policy Committee in 1994; CGIAR Chair Ismail Sergeldin's statement to the Second Ordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity in Jakarta in 1995; and several intellectual property and genetic resources studies during 2004-2009. Having been involved in the changes affecting the CGIAR over more than 3 decades, I am very proud to have been exposed to so much high-quality science; extremely innovative ways of doing business; and the personalized, unpoliticized way of doing business in the CGIAR.

One sadly unresolved issue stemming from the mid-1990s is the lack of trust among donors to provide unrestricted funding to the CGIAR and its research programs. Another serious challenge is to slim down and rationalize the chain of command in the Consortium. I am sure we will meet these challenges. And I am proud and grateful for all the personal friendships and all the things I continue to learn through my involvement with the CGIAR.

### **Carl-Gustaf Thornström**

*Representative of Sweden to the CGIAR; Member, CGIAR Genetic Resources Policy Committee*



and the Caucasus, which exhibited conditions similar to those found in other developing countries. This opened the way for ICARDA to expand its region to include Central Asia and the Caucasus and for several other centers to start programs addressing the needs of these countries.

**Genetic resources and intellectual property rights.** The Convention on Biological Diversity had come into force in 1993, but there were several unsettled issues such as the status of ex-situ collections that existed before the convention and the question of farmers' rights. As FAO had the lead role in revising the International Undertaking on PGRFA to make it consistent with Convention on Biological Diversity, the Commission on PGRFA organized a series of negotiations to turn the undertaking into a treaty. The CGIAR, through its Systemwide Genetic Resources Program and IPGRI, worked closely with FAO on these negotiations. A major objective was to develop a standard material transfer agreement that underscored the fair and equitable sharing of benefits.

Meanwhile, the changing public-private sector balance in agricultural research investments worldwide had brought the use of biotechnology to the fore in all research enterprises like the CGIAR. In the early 1990s, the private sector was responsible for 80% of research on biotechnology worldwide; in the USA alone this amounted to \$595 million in 1992.<sup>35</sup> The private sector had become a major player in agricultural research, as the market potential for genetically modified crops was high and the technology allowed private companies to capture returns on their investments. In contrast, CGIAR Centers spent about \$30 million annually. The issues were complex, ranging from intellectual property and biosafety to the ethical and social dimensions of using this technology. One Center, ILRAD, had used molecular-level research from its beginning. The crop Centers also used some aspects of biotechnology alongside conventional breeding. In fact, IRRI had organized an inter-Center conference on international agricultural research centers (IARCs) and biotechnology in as early as 1984. Now one Center, ISNAR, was hosting its Intermediary Biotechnology Service to assist NARS with managing their biotechnology programs.

What the system lacked were systemwide direction and a policy framework on intellectual property and biotechnology issues, which Serageldin was determined to tackle. While the Private Sector and NGO committees were helpful in providing advice, their views were often contradictory, with the NGO Committee advocating greater reliance on conventional plant breeding and the Private Sector Committee arguing for larger CGIAR investments in biotechnology to avoid being left behind regarding this major change in agricultural research technology. The CGIAR sought additional advice from two panels of experts: one on general issues in biotechnology headed by Richard Flavell and the other on proprietary science and technology headed by Timothy Roberts. After much debate and discussion, the Group agreed to establish central advisory capacity on intellectual property; adopted a set of ethical principles related to genetic resources; asked Centers to conduct intellectual property audits of their work; and agreed to make public all Center and CGIAR policies on genetic resources, biotechnology and related issues. Center investments in biotechnology would be examined as part of the programs making up the research agenda. No system-level entity was created for holding patents. As a result, Centers adopted several policies and principles, including

- Guiding Principles for the Consultative Group on International Agricultural Research Centers on Intellectual Property and Genetic Resources (1996),
- The CGIAR's Ethical Principles Relating to Genetic Resources (1998),
- CGIAR Policy Statement on Genetic Use Restriction Technologies (1998),
- Principles Involving Center Interaction with the Private Sector and Others (1998), and
- Centers' Position Statement on Biotechnology (1998).

These policies would be modified over time under guidance from the Genetic Resources Policy Committee. When the International Treaty on PGRFA came into force in 2006, the

Centers would sign new agreements with the Governing Body of the Treaty and begin using standard material transfer agreements under the treaty.<sup>36</sup>

**Gender issues.** The Centers had started a modest CGIAR gender program in 1991 with backing from a handful of interested donors who acted as a donor support group for it. The program had a limited mandate to identify best practices in addressing gender concerns and sharing them with Centers. The ministerial-level meeting in Lucerne attached a high priority to gender issues, which was reinforced in the global arena by the 4<sup>th</sup> World Conference on Women in Beijing in 1995, where IFPRI and IPGRI represented the CGIAR, later sharing the outcome of the conference with the CGIAR community. The Group recognized that gender concerns needed to be fully integrated into Centers' research and training. The Gender Program began to proceed along two tracks. The gender analysis track focused on user- and client-oriented research to identify technologies important for women; take the needs of women into account when setting priorities; view women as producers, income earners and food providers; and examine the gender implications of research proposals, with small grants provided by the program to finance the inclusion of gender analysis in Center projects. The gender staffing track focused on organizational processes and practices to ensure that Centers attracted high-quality men and women and created work conditions that enhanced the productivity and job satisfaction of both men and women. Surveys were undertaken and good practice notes were prepared and shared on numerous issues. One result was Centers and the system becoming aware that only a third of the Centers had policies on discrimination and sexual harassment in 1994. The program organized numerous management and leadership training courses for women at Centers and NARS. The gender analysis track eventually morphed into a systemwide program on participatory research. The gender staffing component broadened its focus to include all diversity issues and was renamed the Gender & Diversity Program, which continues to be a strong component of the CGIAR. In 1991 women were only 11% of all internationally recruited staff across the Centers.<sup>37</sup> A 2008 survey showed this percentage more than doubling to 26% of all Center scientists, in part because of the contributions made by this program. Between 2003 and 2008, the number of women scientists in the system increased from 182 to 271, or by 49%, compared with a 2% increase for men. Similar improvements were observed regarding other aspects of diversity.<sup>38</sup>





## Emerging Challenges

After 40 years it is appropriate to think about the CGIAR's next 40 years, to the middle of the 21<sup>st</sup> century. The world population of about 9 billion will be more urban and richer but exposed to climate stress, with natural resources increasingly highly prized. The world will have a “bioeconomy” in which competition for natural and agricultural resources will increasingly pit feeding people against energy and industrial uses. Fighting food scarcity and hunger by increasing crop productivity will no longer work in isolation. The productivity and efficiency of whole and interlinked value chains of foods, feeds, fibers and other biomass-based materials need to be enhanced through technological and institutional innovations. Ending waste is part of the challenge. The food and nutrition security of the poor will increasingly be determined outside of agriculture, which means that nutritional deficiencies need to be addressed more directly.

In the past, the CGIAR has continuously adapted with foresight. To address emerging challenges to 2050 the CGIAR may need to reinvent itself and its research agenda at an even quicker pace. Providing research contexts with enough freedom to attract committed and excellent researchers remains essential to serving the CGIAR goals.

**Joachim von Braun**

*Member, CGIAR Technical Advisory Committee; Director General, International Food Policy Research Institute*

While addressing individual concerns such as the three noted above was seen as appropriate, there was growing concern in the Group that the CGIAR had delayed a comprehensive examination of the system far too long. Some Centers faced new financial difficulties resulting mostly from the effects of repeated downsizing. For example, ICRISAT had depleted its reserves and needed \$3.5 million in emergency support in 1997 to continue operations.

Evidence was growing that the challenges ahead were serious and getting more so, as illustrated by a major program initiated by IFPRI called Vision 2020. It was estimated that there would be 150 million malnourished children by 2020, with 70% of them in sub-Saharan Africa and South Asia. Population was expected to grow by 35% between 1995 and 2020, with 95% of that growth in developing countries and the population of sub-Saharan Africa doubling by 2020. As a result, by 2020 demand for cereals in developing countries would rise by 58%, for root and tubers by 56%, and for livestock products by 118%. Production increases would have to come from improved yields, as there was little arable land left on which to expand agriculture. Yet, cereal yield growth had slowed considerably in developing and developed countries alike. This meant that, unless science could help reverse the trends in yield growth, developing countries would increasingly rely on food imports, for which they would need higher income growth. While the Uruguay Round of trade negotiations had called for liberalizing trade in agricultural products, this had little impact on practices in industrialized countries, where domestic support of agriculture and price subsidies continued, robbing the developing countries of the opportunity to compete in a level playing field. Agricultural growth therefore continued to be an engine of economic growth in poor developing countries, elevating the role of agricultural research and the challenges it faced.<sup>39</sup>

## The Third System Review

The Group mounted a third system review in 1997. Unlike the two previous two system reviews, this one was to be conducted by an external panel assisted by an external secretariat. The chair was one of the original founders of the CGIAR, Maurice Strong of Canada, who had also served as secretary general of the Rio Earth Summit in 1992. The panel organized itself into two subpanels, one on science and strategy headed by Bruce Alberts of the USA and MS Swaminathan of India, and the other on governance, structure and finance headed by Whitney MacMillan of the USA and Emil Salim of Indonesia. The panel consulted extensively with internal and external stakeholders. Halfway through the review, at the 1998 midterm meeting, Strong observed that the \$5.2 billion expended on the CGIAR between 1972 and 1997 accounted for the virtual doubling of food production in developing countries and called the CGIAR “the best single investment for ODA, bar none.” When presenting the panel’s report later that year at the autumn meeting of the CGIAR, he concluded that “there can be no long-term agenda for eradicating poverty, ending hunger and ensuring sustainable food security without the CGIAR.”<sup>40</sup>

The panel recommended a new mission statement for the CGIAR:

- To contribute to food security and poverty eradication through research promoting sustainable agricultural development based on the environmentally sound management of natural resources. This mission will be achieved through research leadership, partnership, capacity building, and policy dialogue.

It endorsed the two pillars of CGIAR work as being integrated gene management and integrated natural resource management and recommended that the CGIAR launch global initiatives or networks in both areas. In gene management, the panel saw the need for a coordinating unit on biosafety, bioethics and bio-surveillance and a legal entity that could hold patents. To strengthen partnerships, the review recommended a new collaborative program on building the capacity of NARS with the priority on sub-Saharan Africa.



The system review made 29 principal recommendations, of which more than half were on governance and finance; without doubt, these were among the most controversial. Concerned with the lack of synergy in the operations of the system, the panel saw the answer in shifting to a corporate model, with formal legal status as a nonprofit organization, a central board, an executive committee, a full-time chief executive officer and a chair. It recommended eliminating cosponsors as a separate group; streamlining committees, management processes and meetings; and a concerted effort to mobilize funding from the private sector. While recognizing the need for greater synergy among Centers and convinced of the need for consolidation, the panel did not address the structure of the Center system — suggesting, instead, that the CGIAR commission a separate management review on this.

The recommendation to legalize the CGIAR met strong resistance from the Group, as did the idea of an executive committee. Serageldin summed up the sentiment at the 1999 midterm meeting: “CG will not be incorporated into a legal persona and no central committee will be making decisions on behalf of the Group.” With these exceptions, the CGIAR endorsed the thrust of the panel’s recommendations on scientific direction, partnerships, and management and finance, and it assigned responsibility to various CGIAR groups to come up with action proposals for discussion. One recommendation was to phase out the regional representatives selected from each FAO region to amplify the voice of the South in the CGIAR forum. The Group agreed with this recommendation, as the number of developing country members had grown substantially since the founding of the CGIAR and there was no longer a need for special representation from developing countries. The system was phased out as the terms of the existing representatives expired.

The agenda of the CGIAR during the remaining 2 years of the decade was dominated by follow-up to the system review. The Group agreed to take a fresh look at its vision, strategy and structure. TAC, now under the chairmanship of Emil Javier of the Philippines, was asked to prepare a proposal on vision and strategy. TAC and the Centers were asked to jointly address institutional change issues.

TAC’s vision statement introduced no change in what the CGIAR does but highlighted seven priority planks and suggested shifting to a more collaborative mode of operation through task forces. Part of TAC’s vision exercise was an electronic conference of CGIAR stakeholders on governance and structure. Options suggested by the participants included reorganizing along the lines of global and regional centers, establishing a single board to supervise all Centers, funding programs open to participation by all, and merging or consolidating existing Centers.

Meanwhile, the Centers, which were now operating more effectively as a group, were discussing among themselves alternative structural options for the future. After much debate they proposed creating a legal entity called the Federation of Centers, comprising the Centers, a federation board and a federation office. The federation would perform all systemwide corporate functions, providing services to Centers as well as to donors, and would report annually to the CBC, CDC and CGIAR.

The European donors of the CGIAR were also discussing options for the future structure of the CGIAR. Their proposal was for four regional programs servicing the needs of developing countries; a single, centrally managed CGIAR research facility; and flexible, time-limited task forces drawn from Centers, NARS, NGOs, the private sector and advanced research institutions to address specific research issues.

With several proposals on the table on strategy and structure, the CGIAR asked Oversight Committee Chair Andrew Bennett of the United Kingdom to convene a meeting of stakeholders to synthesize the various recommendations. The synthesis group concluded that (1) “no change” was not an option for the CGIAR, (2) a change process with some “quick wins” followed by more radical changes was necessary, and (3) the best way to achieve this would be by empowering a change team to formulate and implement the needed changes. It recommended that the CGIAR strengthen

its agenda-setting process, particularly regionally. On the proposal that Centers form a federation, the synthesis group felt that the idea was worth having the recommended change team explore further.

The issues before the Group were not just on strategy and structure, as there were internal and external changes the Group needed to attend to. One such issue was climate change. The chair of the Intergovernmental Panel on Climate Change, Robert Watson, had alerted the Group at the 1998 midterm meeting on global warming projections and the possible implications for agriculture and agricultural research. Each Center was exploring potential areas of new research that could help address climate change. Collectively they established the Inter-Center Working Group on Climate Change under the chairmanship of Pedro Sanchez, director general of ICRAF, to develop an integrated strategy. An inventory of ongoing Center research projects dealing with climate change was prepared, showing the contributions the Centers were already making toward adaptation and mitigation. However, the group was unable to develop a collective, integrated strategy because the competitive instincts of Centers overpowered a collective spirit. The resulting “strategy” was no more than a collation of the existing programs of each Center related to adaptation and mitigation.

Another issue was public health. HIV/AIDS and its implications for agricultural development and agricultural research were key concerns, particularly in sub-Saharan Africa. The World Health Organization released data showing that HIV/AIDS and a few other serious diseases were sapping the economic growth potential of poor developing countries. Agricultural research could help in several areas, especially nutrition. IFPRI had represented the CGIAR at the 1993 International Nutrition Conference organized by FAO and the World Health Organization and had been working with the other Centers to explore ways of addressing zinc, vitamin A and iron deficiencies through plant breeding and other research. As with climate change, Centers faced difficulty agreeing on a collective strategy. One was developed a few years later in 2002, when the CGIAR initiated a new vehicle for collaborative research among Centers and their partners called Challenge Programs, which included a program on biofortification, or breeding crops with heightened nutrient content.

As the 1990s drew to a close, the CGIAR had acquired a growing and increasingly complex research agenda, with new subjects such as climate change and nutrition demanding a share of the resources. Internally, annual funding was in the range of \$330-340 million, which was insufficient to tackle the research agenda. The outlook for ODA remained uncertain, and there were worrying signs in the mode of finance. Restricted funding had risen from 23% of all funding in 1994/95 to 39% in 1998, limiting Centers’ freedom to allocate resources to high-priority projects. A retrospective review of the CGIAR conducted for the World Bank’s Operations Evaluation Department concluded that, despite its proven success, the CGIAR “is a rather fragile institution, especially in its funding. New ways need to be explored to ensure the CGIAR’s sustainability in the future.”<sup>41</sup>

## Management Challenges Faced by Centers

It was a highly challenging task, to say the least, to lead one of the Centers during this time. The days of directors serving as intellectual leaders of the research program were long gone. Centers faced the perennial problem of running a long-term research program with annual funding that was increasingly uncertain. World Bank funding could no longer be relied on as a last resort. This meant that donor relations had to receive the top priority on a director general’s agenda. As the accountability (or bureaucratic) requirements of the system had increased over the years, the directors and their Center management staff had to attend to numerous requests from TAC and the CGIAR Secretariat, not to mention the individual donors, each of which had its own reporting requirements.

As shielding scientists from these administrative tasks was a priority, the time directors had available to spend on managing science steadily dwindled.

Perhaps the hardest task of all for directors was responding to funding shortfalls. As the Centers had no way to borrow, other than through ad hoc arrangements with the CGIAR Secretariat, a sharp drop in funding required immediate staff downsizing. Practically all Centers faced this reality through the decade. As each country had its own labor laws, the means and consequences of downsizing differed among Centers. Continuing funding shortfalls meant another wave of downsizing, affecting the morale of staff and roiling the climate of uncertainty. Successive downsizings were usually followed by reorganization, which also unsettled staff. Thus, the CGIAR's third decade was not a happy time for Centers or their managers and staff.

## A New Chair and a New Reform Agenda

Ian Johnson of the United Kingdom took over as chair of the CGIAR from Serageldin in mid-2000, as the system was grappling with these challenges. Johnson had been involved in establishing the Global Environment Facility and was convinced that the CGIAR needed to “elevate its game” to be able to make a larger difference in poverty alleviation and food security. At his first CGIAR meeting in the autumn of that year, the main agenda item was charting the future of the CGIAR. For this, he offered a two pronged approach: actions for a few “quick wins” in the short term and actions with a medium- to long-term perspective to be decided by the end of the next midterm meeting. The agreed quick wins included pooling common services to Centers, experimenting with bottom-up priority setting on a pilot basis in one region, and reducing the number of CGIAR meetings to one per year starting in 2002. For the longer term, the Group agreed to coordinate a change process through an ad hoc steering group facilitated by a change design and management team appointed by the chair. The team was to develop a

- restructuring plan for the system,
- governance plan that streamlined decision-making, and
- business plan to improve efficiency and reduce overheads.


Thus, the third decade of the CGIAR came to an end as did the preceding decade, with the Group exploring how it could become a better instrument for development. Despite the upheavals and difficulties, there was no question whether the CGIAR was making an impact, as evidence of Centers' accomplishments accumulated. The debate was on how to sustain and broaden impact. A major piece of evidence had just come from the IAEG. The first major study it had commissioned, on the impact of the CGIAR's crop-improvement research, had just been completed. Led by Robert Evenson of Yale University, the study covered research conducted on 10 crops by 8 CGIAR Centers over 1965-1998. Beyond rice, wheat and maize, which had the longest history of research, the data showed that crop-improvement research on sorghum, millet, barley, lentil, bean, cassava and potato also had significant impact where CGIAR germplasm was adopted. Overall, 65% of the total area planted to these 10 crops was sown to improved varieties, and 60% of this was occupied by many of the 7,000+ varieties resulting from Center research. For every dollar invested in CGIAR research, \$9 worth of additional food was being produced in developing countries. The counterfactual scenario — how the global food system would have evolved without CGIAR research — was sobering:

- Developing countries would be producing 7-8% less food.
- Their cultivated area would be 11-13 million hectares greater, at the expense of forests and other fragile environments.
- Their per capita food consumption would be 5% lower.
- Some 13-15 million more children would be malnourished.<sup>42</sup>









THE CGIAR STARTED ITS FOURTH DECADE UNDER THE LEADERSHIP OF A NEW TEAM. FRANCISCO REIFSCHNEIDER OF BRAZIL HAD BEEN APPOINTED CGIAR DIRECTOR, REPLACING ALEXANDER VON DER OSTEN OF GERMANY, WHO HAD SERVED AS EXECUTIVE SECRETARY OF THE CGIAR THROUGHOUT THE 1990S. REIFSCHNEIDER HAD BEEN REPRESENTING BRAZIL AS A DONOR IN THE CGIAR AND WAS AN EXPERIENCED SCIENTIST AND SCIENCE MANAGER IN THE BRAZILIAN AGRICULTURAL RESEARCH CORPORATION (EMBRAPA). WHEREAS VON DER OSTEN HAD SERVED AS EXECUTIVE SECRETARY, REIFSCHNEIDER HAD ELEVATED MANAGEMENT RESPONSIBILITIES IN THE CGIAR THAT WERE AKIN TO THOSE OF A CHIEF EXECUTIVE OFFICER, IN PART BECAUSE THE NEW CHAIR, JOHNSON, WOULD NOT BE ABLE TO DEVOTE AS MUCH TIME TO CGIAR MATTERS AS HAD HIS IMMEDIATE PREDECESSOR, SERAGELDIN.

## 2001-2010 TOWARD A NEW CGIAR

## A New Change Agenda

Johnson appointed Margaret Catley-Carlson as chair of the Change Design and Management Team (CDMT). Catley-Carlson had significant executive experience in her native Canada and internationally and was serving as the chair of the Global Water Partnership, a global network patterned after the CGIAR. Her team included both insiders (two Center directors and the management adviser in the Secretariat) and outside experts. The CDMT finished its work in 4 months, meeting with the Johnson-led steering group several times during this period.

The CDMT's vision of the future CGIAR was a system focusing "a major part of its efforts on large multi-institutional research programs which address specific problem areas..."<sup>43</sup> In line with this vision, it recommended that "substantial elements of CGIAR work should shift decisively to a programmatic approach in defining, financing and managing research activities."<sup>44</sup> It suggested that the shift to programs, called Challenge Programs (CPs), should be gradual, starting with 2-4 and over a period of 5 years bringing about half of the CGIAR research agenda under CPs.

The shift to CPs was seen as a way for the CGIAR to elevate its game, in Johnson's terms. It would open up the system and help strengthen partnerships with NARS and other research actors. The challenges addressed through CPs would be attractive to the development assistance community and could help mobilize additional funds for the CGIAR.

The CDMT's other key recommendations included the following:

- **Executive Council.** Appointed by and reporting to the Group, the Executive Council (ExCo) would execute the functions of the CGIAR between its annual general meetings (AGMs). It would be primarily a shareholders' committee, with some non-donor *ex-officio* members, such as the chairs of the private sector and NGO committees, Science Council, CDC, CBC and GFAR.
- **Science Council.** TAC would be transformed into the Science Council, focusing on major science policy questions and the quality and relevance of science practiced in the system. In addition, the Science Council should help mobilize global and regional scientific expertise to support the research conducted by Centers and their partners.
- **CGIAR System Office.** This newly established entity would encompass the CGIAR Secretariat, Future Harvest and other units providing service to the Centers or the CGIAR.

Like the third system review before it, the CDMT largely ignored the restructuring of Centers, arguing that its recommendation to shift to a programmatic approach would induce restructuring over time through market mechanisms. It recommended that the CGIAR set aside funds to encourage voluntary restructuring such as mergers or the formation of clusters, with two or more Centers grouping themselves into a cluster with a common board. This was seen as an evolutionary approach to restructuring, as contrasted with a top-down approach.

The report of the CDMT was the principal item on the agenda discussed at the last CGIAR midterm meeting in Durban, South Africa, in 2001. The meeting was held against the backdrop of the Millennium Development Goals newly minted at the United Nations Millennium Summit the preceding year and international interest in livestock diseases because of outbreaks of foot-and-mouth disease and mad-cow disease in Europe. At the opening of the meeting, Johnson reminded members that the CGIAR — whose efforts directly or indirectly influenced the achievability of several Millennium Development Goals, including halving the number of people living in extreme poverty by 2015, ensuring environmental sustainability and reducing child mortality — now faced an even greater challenge to improve its performance and strengthen its impact.

## *Invaluable Contributions*

I have had the privilege of witnessing the CGIAR's growth starting with the Green Revolution era in mid-1960s. Today, the CGIAR is well recognized the world over as an important international system of agricultural research for development that has made invaluable contributions to global food security. Its partnership with national agricultural research systems has generated relevant production technologies. The system has been a major player in building much-needed human resource capacity in many developing countries.

The CGIAR system has evolved over the past 4 decades and is still changing to meet emerging challenges and stakeholders' new expectations. As it changes, the CGIAR should maintain its focus on productivity gains and benefiting poor farmers. The New CGIAR has to guard against eroded autonomy, increased bureaucracy, and imbalance between basic and strategic research that has relevance to the needs of poor smallholder farmers and of consumers. A renewed focus on translational research and innovations for impact is now needed. Increased resources must ensure required core funding for scientists. Inter-institutional linkages for farming systems' research through CRPs will deliver desired results. The new SRF of the CGIAR must therefore yield much better research outputs and impact the world over.

In brief, the global community has gained enormously from the CGIAR system. If not for those visionaries who established the system, we would have to create it now. As the CGIAR already exists, we need to nurture it to the best of our ability to ensure its continued growth and further progress toward food and nutrition security and environmental protection.

### **Raj Paroda**

*Director General, Indian Council of Agricultural Research; Representative of India to the CGIAR; Board Chair, International Crops Research Institute for the Semi-Arid Tropics; Chair, Global Forum on Agricultural Research*



The CGIAR endorsed the four main recommendations of the CDMT with some modifications. These were to serve as the four pillars of reform implemented over the next few years. The Group quickly established its interim ExCo to oversee the operationalization of the reforms. This closed down three CGIAR committees: the Consultative Council, Oversight Committee and Finance Committee. The interim ExCo met immediately following the midterm meeting in Durban and established four task forces to develop action proposals on each pillar of reform for discussion by the CGIAR at its first AGM, to be held in Washington, DC, in the autumn.

Unlike the international Centers weeks that it replaced, the first AGM of the CGIAR clearly demarcated the business meeting of the CGIAR, now shorter and attended by invitation only, from the larger stakeholder meeting that preceded it. The CGIAR took concrete decisions on how the four-pillar reform was to be implemented:

- The 21-member ExCo was appointed and held its first meeting immediately following the business meeting. ExCo was a committee of stakeholders, not a shareholder council as recommended by the CDMT, with 13 rotating members and 8 permanent members. The latter included the three cosponsors, which now included IFAD and excluded the United Nations Environment Programme at the latter's request. ExCo would have a program committee and a finance committee, which were later disbanded because discussions in the full council replicated much of what the committees had discussed.
- The eight-member Science Council (SC) was to be established, with the existing TAC serving as the interim SC.
- The virtual System Office, akin to a corporate office, was to be established, bringing together the CGIAR Secretariat, Science Council Secretariat, Future Harvest Foundation and other entities providing common services to Centers.
- CGIAR would identify and fund up to three CPs on agreed themes on a pilot basis during 2002. These would be selected from among the 10 proposals developed by Centers prior to and during the AGM, several of them based on existing system-wide or ecoregional programs. Subsequent CPs would follow an agreed process ranging from the generation of ideas to pre-proposal and full-proposal development in successive stages, based on reviews by the SC and ExCo.

As the CGIAR began to implement these reforms, the link between agriculture and development became more widely acknowledged in international forums such as the World Summit on Sustainable Development in Johannesburg in 2002 and United Nations Secretary General Kofi Annan's Water, Energy, Health, Agriculture and Biodiversity Initiative on biodiversity and ecosystem management.

## Some Troubling Signs

By the time the new reforms started, membership in the CGIAR had jumped to 62, of which 24 were developing countries, 22 developed countries, and the rest international or regional organizations and foundations. Funding for the system had been stable in nominal terms at about \$340 million in 2001, with 39% coming from European donors and 43% directed to sub-Saharan Africa. But there were some troubling signs. One was the increase in restricted funding to 57% from 36% in 1992. The other was that Centers did not enjoy stability across the board. One Center had asked for additional support from the CGIAR to help it cope with downsizing costs. Several others were short of working capital. WARDA was affected by political instability in its host country, Côte d'Ivoire, which affected movement in and out of the country and threatened the well-being of staff and their families. Several components of the system mobilized by WARDA and the Secretariat, including the UNDP, the World Bank and France, helped relocate staff and dependents from Bouaké initially to Abidjan and later to IITA facilities in Benin.

Another Center, ISNAR, had been judged to be performing below the expected standard, with only modest impact according to its own studies and the external program and management review (EPMR) panel that conducted the evaluation. By now ISNAR had a 20-year history but had not been able to develop itself into a successful research-based service institute. The panel saw three options for the future of ISNAR: (1) retooling and re-staffing the Center to build needed capacity, (2) turning it into a decentralized service-oriented entity operating in developing regions (the panel recommendation), or (3) phasing out the Center and transferring its most vital functions to other Centers.

The CGIAR faced the possibility of phasing out one of its original 13 Centers. A task force called the ISNAR restructuring team was established to study all restructuring options. It recommended transferring the governance and programs of ISNAR to IFPRI, in effect following the panel's third option.<sup>45</sup> ExCo and the CGIAR agreed. This meant that the CGIAR, an entity without legal status, would need to convince an autonomous, legally established international institution to phase itself out. The actual decision of the CGIAR, at its 2003 AGM in Manila, read: "The CGIAR requests the ISNAR Board to adopt a resolution dissolving ISNAR and to submit [to] ExCo a plan for the disposition of ISNAR's assets for approval by the CGIAR."<sup>46</sup> This was a prime example of how the power of the purse worked in an informal organization like the CGIAR. The costs of closing ISNAR were borne by a few donors led by the World Bank. ISNAR became a division of IFPRI and was relocated in Ethiopia, carrying out some functions of the former Center. The long-term effect of the CGIAR's decision to close ISNAR has yet to be studied.

## The World Bank Meta Evaluation of the CGIAR

At the 2002 AGM, the same at which the ISNAR EPMR was discussed, the Group was briefed by the World Bank's Operations Evaluation Department, which had been conducting a meta evaluation of the CGIAR as part of an evaluation of all global programs it was involved with. Led by Uma Lele, a senior advisor in the Operations Evaluation Department and a former member of TAC, the meta evaluation turned into yet another review of the system. It made some recommendations internal to the World Bank on how to handle the CGIAR, such as eliminating conflicts of interest arising from the different roles played by the bank, and some recommendations on the strategic directions the CGIAR had been following in the aftermath of the third system review and the report of the CDMT.

The report concluded that the CGIAR was "less focused" than in earlier years because of the decline in the share of its resources devoted to increasing productivity, which was a consequence of increased research investment in natural resource management and biodiversity. It argued that the CGIAR's "current mix of activities reflects neither its comparative advantage nor its core competence" and cautioned against the steep rise in restricted funding. It listed the following as key factors explaining the changes in research mix and type of funding:

- "the unpopularity of germplasm improvement research in the constituencies of some key donors due to negative perceptions of the Green Revolution initially and of biotechnology more recently,
- "the CGIAR's justified response to the second-generation environmental pressures on soils and water created by the radical changes in farming systems during the Green Revolution,
- "the rise of environmentalism and growing environmental advocacy in donor countries, and
- "the weakening of many national agricultural research systems," which had led donors to turn to Centers to fill the vacuum, thus shifting Centers' focus away from creating global public goods toward contributing to the generation of local and national public goods.<sup>47</sup>





The meta evaluation criticized the transformation of TAC into the SC because this was seen as weakening the role of this advisory body in setting priorities and monitoring the allocation and use of resources. It also criticized the initiation of CPs before first addressing issues of systemwide funding, priority setting and governance. Finally, it recommended that the CGIAR adopt a written charter, which was already in an advanced stage of preparation.

At the next AGM, Ian Johnson briefed the Group on the reaction of the World Bank to the evaluation. The bank's board had found the conclusion that the CGIAR was less focused "potentially too sweeping."<sup>48</sup> With regard to potential conflicts of interest in the handling of the CGIAR within the World Bank, the board separated management and oversight responsibilities vis-à-vis the CGIAR. The Group noted the analysis and observations of the meta evaluation, agreeing with several, such as reversing the trend towards restricted funding, but taking no steps toward changing the research mix or the responsibilities of the SC.

## Implementing Reform

ExCo's existence facilitated the implementation of the agreed reforms. While the four pillars constituted the core of the reform agenda, a few additional changes were introduced as well, following discussion and approval by the CGIAR.

**Challenge Programs.** The CGIAR endorsed the implementation of two CPs a year. The first was the multi-stakeholder Challenge Program on Water and Food, administratively coordinated by IWMI toward generating research-based knowledge on growing more food with less water. The second, HarvestPlus (initially titled Biofortified Crops for Improved Human Nutrition), was co-convened by IFPRI and CIAT toward reducing micronutrient malnutrition through research to breed staple foods with heightened nutrient content, particularly of iron, zinc and vitamin A. The third was the Generation Challenge Programme (initially titled Unlocking Genetic Diversity in Crops for the Resource-Poor), jointly coordinated by CIMMYT, IRRRI and IPGRI toward using the latest advances in molecular biology to create a new generation of crops to meet farmers' needs.

While these three pilot CPs proposed by the Centers were being identified, the CP process was opened to allow the public at large to submit CP ideas. One of these, called Improving Livelihoods and Natural Resource Management in Sub-Saharan Africa: Securing the Future for Africa's Children (SSA CP) was approved for full proposal development. Unlike the three pilot CPs, this program was to be coordinated by an institution outside the CGIAR, the Forum for Agricultural Research in Africa, with CGIAR Centers and other institutions participating as partners. The program was to use an innovative methodology executed at three intensive research "learning sites" across SSA. Following several iterations, the proposal was finally approved for 5 years.

The CP process was frozen for a few years in response to pressure from Centers and some donors. The CPs had created two classes of Centers: those who led CPs and those who did not. The ones leading CPs were satisfied with the additional funding they received. Those who did not argued that CPs were taking funding away from the Centers and weakening Center programs. While some donors were happy to provide funding to CPs, notably those who were unwilling to provide core funding to Centers, others criticized how CPs were identified. No strategic framework provided a rationale for the selected CPs; an ad hoc process had been used for the pilot CPs, and a more robust framework for identifying the next group of CPs was needed. The process was unfrozen in 2006, after a new set of priorities was identified, but only one CP was introduced, the Challenge Program on Climate Change, Food Security and Agriculture, because a new reform program was being planned, initiated by the new chair, Kathy Sierra.



**Science Council.** The CGIAR appointed a working group under the chairmanship of Mohammed Hassan, the Sudanese executive director of the Third World Academy of Sciences, to further define the role of the new SC. Hassan and his team clarified the mission of the new SC and recommended that it consist of six members plus the chair. The SC should also include, said the team, the chair of the Standing Panel on Impact Assessment, the successor to the IAEG. The SC should establish three standing panels on strategies and priorities, monitoring and evaluation, and mobilizing science, each chaired by an SC member and including two additional external members. In addition to the six new members, two members from the interim SC should continue for a year for continuity.

Hassan then chaired a search and nomination committee to identify potential members for the new SC. While the search continued, the interim SC met responsibilities under the leadership of Emil Javier of the Philippines. The Hassan committee recommended, and ExCo and the CGIAR agreed to, appointing Per Pinstrup-Andersen of Denmark as the SC chair. An economist, Pinstrup-Andersen had served as a member of TAC and later as director general of IFPRI for 10 years. One of the first responsibilities of the new SC was to develop a new set of priorities for the CGIAR while strengthening scientific linkages between the CGIAR and the global scientific community.

**System Office.** The CGIAR was spending about \$10 million annually on the provision of corporate services for the Group and the Centers. These services were provided by several units working in various locations with various supervision arrangements and little coordination. The objective of establishing the System Office was to instill strategic coherence to the services through better planning, coordinated implementation and increased communication.

Several of these units or services, such as the CGIAR Secretariat and the SC Secretariat, had been in existence for a long time (the latter as the TAC Secretariat). Others had a shorter history, such as the Gender & Diversity Program, Internal Audit Unit, Central Advisory Service on Intellectual Property and Future Harvest Foundation, but each had an established track record. Absent in the corporate service portfolio were three key functions: information and communication, human resource management and media support. The CGIAR director and the Center directors filled the void by establishing the position of chief information officer to plan and coordinate information technology, information management and knowledge management; the Strategic Advisory Service for Human Resources to codify the human resources policies of participating Centers and provide advice on human resources policy and practice; and the Media Unit to develop and implement media strategies to garner coverage



## *Change for Good*

Saying that the international agricultural research system has changed since I joined CIAT in 1969 would be a gross understatement. This is clearly illustrated in this publication. I believe most of the change has been for the good of the system and for the people and natural environment that the system aims to serve. The transition from a system tolerating a few economists to the current outstanding contributions of the system's economics and policy research is remarkable. So is the transition from a few single Centers, each pursuing its own priorities with great success, to a network of 15 Centers with increasing emphasis on collaboration on key system priorities.

As the chair of the Science Council, I became convinced that the whole of CGIAR contributions would be much greater than the sum of each individual Center's work if the Centers would emphasize collective action around a few key challenges facing food systems in developing countries. I am glad to see movement in that direction. Beginning at CIAT in 1969 and ending at IFPRI in 2003, with a couple of escapes in between, I have been privileged to be part of the most successful agricultural development effort the world has ever seen. It has been a tremendous *tour de force*.

### **Per Pinstруп-Andersen**

*Center staff, International Center for Tropical Agriculture; Member, CGIAR Technical Advisory Committee; Director General, International Food Policy Research Institute; Chair, CGIAR Science Council*



of Centers' achievements and impacts. To these was added the service unit of the CDC, which was later turned into the service office of the Alliance of CGIAR Centers (described below).

Forming the virtual System Office was an institutional experiment. Its design was based on advice from a prominent management consulting firm. In the absence of common supervision, the experiment had limited success in integrating functions, except perhaps in communications, for which the Centers, the Secretariat, the Future Harvest Foundation, and later the Media Unit began to conduct common campaigns. The System Office experiment had modest impact, though, toward improving communication among the units under that umbrella with an annual planning workshop.

**CGIAR Charter.** The establishment of ExCo, the SC and the virtual System Office, and the elimination of some former CGIAR committees, had changed the institutional landscape of the CGIAR in significant ways. Each of the new groups and units had its terms of reference and rules of procedure. Most importantly, the Consultative Group was increasingly recognized as the key decision-making body in the system. Earlier papers on the roles and responsibilities of committees and units of the CGIAR had become obsolete and needed to be replaced by a more comprehensive and authoritative document. The void was filled by developing the CGIAR Charter with help from an advisory committee that included representatives of all components of the system. The Charter was adopted by acclamation at the 2004 AGM. The informal group established 33 years before had adopted, for the first time, a formal charter.

**Performance Measurement System.** While for many organizations, including CGIAR member organizations, institutional performance is measured annually, Center performance was assessed in the CGIAR once every 5 years through EPMRs. ExCo provided the green light for building the Performance Measurement System for the CGIAR and appointed two of its members to chair a working group to guide its development. The Centers, the SC, the Secretariat and external experts were involved in its development.

The Performance Measurement System was seen to provide a tool to Centers for decision-making, a tool to donors for resource allocation, a tool for learning through benchmarking, and a means of demonstrating accountability. It would not replace any of existing planning or evaluation process, and each donor and Center would use the information as it saw fit. The data would be provided by each Center annually and verified externally, with assistance from the CGIAR's Internal Audit Unit.

The design of the system began in 2003 and continued as it was piloted in the 2004 calendar year. It had two groups of indicators: (1) results measured by outputs, outcomes, impacts and stakeholder perceptions and (2) indicators reflecting the Center's potential to perform such as quality of staff, quality and relevance of programs, institutional health including the performance of the board, and financial health. Each indicator was successively revised to improve its reliability, validity and practicality.<sup>49</sup>

ExCo paid special attention to the financial performance indicators generated by the Performance Management System. Reflecting both the short-term and the long-term financial health of each Center annually, these indicators provided evidence of improvement or deterioration of Centers' financial status. The CGIAR chair sent letters to the board of a Center receiving "red flags" (an indicator reflecting performance below an accepted standard) requesting the board to take corrective action to improve the Center's financial health. Several donors, led by the World Bank, paid attention to indicators they considered important to their resource-allocation decisions for each Center, such as on board performance, gender staffing and the quality of science.

**Strategic communications.** An additional area of reform was system communication. A communications adviser position was created at the Secretariat, and a strategic, science-based communications program was developed with strong collaboration from Centers. The program

planned and produced events and publications aimed at key constituencies, expanded the presence of the CGIAR on the web, strengthened the system's and partners' media culture, organized media workshops (some combined with leadership courses offered to senior managers in the system), and helped align communications across the system.

**Handling of meetings.** Additional reforms covered the business processes of the CGIAR. Meetings became shorter (1½ days for ExCo meetings and 2 days for the business meeting portion of the AGM), with minutes of meetings circulated within a week. A digital voting system was used at the end of each agenda item to assess members' satisfaction with the manner in which the item was handled and inform corrective action when required. The CGIAR membership was asked to assess ExCo's performance each year, and ExCo was asked to assess the Secretariat's performance. ExCo and the CGIAR experimented with virtual, or electronic, decision-making, with the process improved over time. These innovations helped enhance transparency and accountability in the Group.

## Center Consolidation Back on the Agenda

The CDMT's recommendation to rely on market forces for structural change had not yielded any results, despite the modest incentives offered by the donor community. At the same time, the Group was frustrated by fragmented and disjointed actions to address common problems or problems particular to a region, in particular sub-Saharan Africa, where about half of the CGIAR's resources were directed and repeated past attempts to align Centers' operations had not borne any fruit. The structure issue surfaced again during discussion of the ICRISAT EPMR in 2003. The review panel had recommended moving ICRISAT's headquarters and all its programs, except the strategic plant genetic resources program and the genebank, from India to Africa. It became clear during the discussion in ExCo that ICRISAT's possible move to Africa could not be separated from the larger strategic and structural questions on how the entire system was organized in sub-Saharan Africa.

At the 2003 AGM, the discussion of ICRISAT followed on the heels of the CGIAR decision on ISNAR, which involved basing part of the ISNAR program in sub-Saharan Africa. Passionate and strong opposition from the delegate from India to moving ICRISAT's headquarters to Africa showed that, after many years of hosting the Center, Indians considered it as much an asset to India as it was of the global community — a view shared by several other members.

In the usual CGIAR fashion, the Group favored a comprehensive examination of CGIAR operations in sub-Saharan Africa and their issues and options. Two task forces were established, one to examine options for the programmatic alignment of CGIAR operations in sub-Saharan Africa and the other on structural options and organizational alignment. ExCo discussed the reports of the task forces in two meetings in 2005, with interim decisions made by the Group on a virtual basis, followed by further discussion at the 2005 AGM.

Not unlike the previous system review, the task forces saw the need for the CGIAR to agree to establish a process toward consolidating all CGIAR Centers and activities in one global corporate entity. They recommended that this principle guide regional restructuring, with the first step being consolidating all Centers headquartered in sub-Saharan Africa into two entities, one for West and Central Africa and the other for East and Southern Africa. The two Centers located in West and Central Africa (IITA and WARDA) should operate under a single board, and a similar CGIAR corporate entity should be established in East and Southern Africa, with ILRI and ICRAF as its first two constituent bodies.

While the rationale behind these recommendations enjoyed support in the CGIAR, members questioned whether making such dramatic changes in structure would be wise without considering what should be done in other regions. Also, the recommendations faced serious hurdles: WARDA was an intergovernmental organization, and the CGIAR had no right to take decisions on

its behalf (leaving aside the practicality of blending the governance structures of IITA and WARDA); as ILRI and ICRAF had very little in common in terms of goals and activities, would it be prudent to have them governed by the same corporate entity? These and similar concerns led the CGIAR to agree on a more pragmatic and less revolutionary approach: separating the “alignment” question into three components: programmatic, administrative (corporate services), and governance. Programmatically, Centers should align their plans and programs through medium-term plans to be prepared for each subregion. In terms of corporate services, the two Centers in each subregion should align their corporate service arrangements such as common purchasing, finance and human resource services. With respect to governance alignment, WARDA and IITA should aim to have a common board by the beginning of 2007, while ICRAF, ILRI, and other Centers operating in East and Southern Africa should prepare a “think piece” on structural options.

This turned out to be yet another evolutionary approach to consolidation and structural change. Implementation was slow, as reported a year later at the 2006 AGM, and practically nonexistent on governance alignment. The Group began to ask whether the larger need was to develop a new vision for the system.

## Fine-Tuning Aspects of Governance

Besides striving to address continuing challenges regarding its structure, the system was under pressure to fine-tune three aspects of governance: relations with civil society organizations (CSOs), the governance of individual centers and the governance of Centers collectively.

**Relations with CSOs and the private sector.** The need to reexamine relations with these sectors became apparent at the 2002 AGM in Manila, when the NGO Committee representative informed the membership that the committee would freeze its relationship with the CGIAR and disengage “because of concerns that the CGIAR was following a corporate-led agenda.”<sup>50</sup> This decision came as the CGIAR was considering how farmers’ organizations could best be represented in the CGIAR forum. The Group decided to commission a review of its partnership committees, and at the Group’s request ExCo appointed a panel headed by Keith Bezanson of Canada. The panel would examine how successful the partnership committees had been and whether there were more efficient ways to achieve committees’ missions.

The panel recommended that the CGIAR continue the Private Sector Committee for 2-4 more years in a market-testing mode, to enable the committee to implement its recently planned partnership-strengthening strategy. Regarding the NGO Committee, the panel concluded that “the relationship is seriously damaged and cannot be repaired in the absence of a new, constructive and clear basis for discourse”<sup>51</sup> and recommended leaving the relationship frozen for the time being. The CGIAR agreed with the panel’s recommendation on the Private Sector Committee, which continued to function throughout the decade. Regarding relations with CSOs, the Group agreed to expand engagement activities already underway such as the Innovation Marketplace, Farmers Dialogue and Farmers Exchange; organize a CSO forum to precede the 2006 AGM; and further strengthen its relationship with GFAR.

The CSO Forum in 2006 was a first in CGIAR history. Attended by close to 400 participants, the forum identified several possible avenues for collaboration between CSOs and the CGIAR, including tapping regional fora and GFAR as opportunities for dialogue. Two immediate outcomes of the forum were the appointment of a farmers’ organization representative to ExCo to fill the vacant seat for CSOs and the closure of the dormant NGO Committee.

**Stripe review of Center board performance.** The second area of governance for fine-tuning involved Centers and their boards. The CBC and the Secretariat commissioned in 2004 a stripe review of Center board performance in view of performance weaknesses reported in some EPMRs.

## Overlapping Interests

The CGIAR has made tremendous contributions to agriculture, food security and livelihood improvement. The view looking in from a private sector perspective showed the system to be extremely complex. The formation of the private sector committee marked the CGIAR's formal engagement with the agriculture industry. While there are many overlapping areas of interest between the two groups, engaging with the industry was not a concept that came easily to most members of the CGIAR. There was great enthusiasm in the private sector to engage, as the ultimate objective of improving agriculture was a common platform, and great enthusiasm still exists regarding the many complementarities between the groups. This hesitation to engage with the industry did not allow for the strongest of bonds to be forged between the two groups. The need to have stronger ties with the industry is more urgent today than ever before, given the technological advances made and the benefits some of the technologies can bring to the marginalized and poor.

Few of the diverse members of the Private Sector Committee could grasp the governance structure of the CGIAR, with its layers of reporting and decision-making. Restructuring in particular was daunting, and we could not always understand the logic behind it, especially when the outcomes of restructuring resulted in no quantum changes.

The CGIAR is a unique body that is present in some of the world's most physically and politically challenging environments. A stronger partnership would benefit both the private sector and the system.

### **Usha Barwale Zehr**

*Member & later Chair, CGIAR Private Sector Committee; Member, CGIAR Executive Council; Board Member, International Rice Research Institute & International Maize and Wheat Improvement Center.*



Samuel Paul of India was appointed chair of a three-person team. The review found the performance of Center boards to be “uneven,” particularly with respect to overseeing strategy and finance. It recommended smaller boards numbering 9-11 members, with no more than one host country representative (some Centers had as many as three), two CGIAR nominees (several had more), and at least two members with experience in finance. It recommended more frequent board meetings and suggested several procedural changes.<sup>52</sup>

The CGIAR endorsed the recommendations of the stripe review and asked the Centers to implement them, reporting to ExCo on their progress. ExCo asked the Secretariat and CBC to update the existing CGIAR guidelines for Center boards, taking into account the recommendations of the review. An immediate impact of the review was the inclusion of at least two individuals with finance experience on Center boards. A few Centers reduced the size of their boards, with one operating with only seven members. The recommendation on reducing the number of host country representatives to one was not found to be feasible on political grounds. The Secretariat issued an updated set of board guidelines in 2007.

**Collective organization of the Centers.** The CBC and CDC had operated as two apex coordinating bodies on common affairs of the Centers for over 2 decades. Chairs of both participated in ExCo as full members and represented Centers’ views in CGIAR meetings. In 2006 the Centers agreed to form an alliance, in some ways similar to their earlier proposal to establish a federation, with the CDC becoming the alliance executive and the CBC the alliance board, both assisted by an alliance office. The two main purposes of the Alliance of the CGIAR Centers were to facilitate and implement collective action and to enable Centers to speak with one voice.

The CGIAR welcomed the establishment of the Alliance. The Charter was amended to incorporate the changes in the organization of the Centers. The Alliance Office became a part of the CGIAR System Office. As the Alliance had enabled the Centers to speak with one voice, the Centers’ representation in ExCo and the CGIAR was reduced to one seat.

The Centers’ formation of the Alliance coincided with the chairmanship of the CGIAR passing from Ian Johnson, who had decided to retire from the World Bank, to Kathy Sierra, an American who had replaced him as vice president in an expanded World Bank vice presidency.

## Toward Deeper Reform

When Sierra took over as chair, total contributions to the CGIAR had reached \$450 million and the membership of the Group stood at 64. The top five contributors were, in descending order, the United States, the World Bank, the United Kingdom, Canada and the European Commission, each contributing more than \$30 million. The top developing country contributors were Nigeria, India, Brazil, China and Turkey, all contributing more than \$1.0 million. CIAT was the largest Center in terms of expenditures, with a budget of \$42 million, and WARDA the smallest, spending \$11 million.<sup>53</sup>

By this time the FAO Commission on Genetic Resources for Food and Agriculture had completed negotiations to prepare the International Treaty on PGRFA, with regular support from IPGRI and the CGIAR Systemwide Genetic Resources Program. The treaty had come into force in 2004, and the Centers had signed agreements with the Governing Body of the Treaty, placing about 650,000 accessions of plant genetic resources under the purview of the treaty. The Centers began using the standard material transfer agreement of the treaty whenever transferring germplasm, using it not only for plants covered by the treaty.<sup>54</sup>

On the strategy front, the SC had developed and the CGIAR approved a new set of system priorities for the next 10 years. Following a comprehensive global analysis of needs and opportunities, the



SC had linked the CGIAR goal with five priority areas, which together contained 20 priorities addressed by over 100 activities. The analysis showed the contribution of each priority to the Millennium Development Goals. The five priority areas were similar to the earlier classifications of CGIAR activities:

- sustaining biodiversity;
- genetic improvement;
- agricultural diversification;
- management of land, water and forest resources; and
- improving policies and facilitating institutional innovation.

While the new system priorities had strong rationale and the Group had endorsed them, they alone could not serve as a driver of change. Approval by the CGIAR was insufficient to encourage the Centers to align their programs with the new priorities. Unlike the old TAC, the SC did not have a “carrot” to offer the Centers for realigning their programs, and the CGIAR did not have a “stick” because it was only an informal consultative body, with no legal authority over Centers. One sure way the new priorities could be enforced was for each and every donor to agree to abide by them in making their grants to Centers. Some donors paid strong attention to SC recommendations when making their allocations. But all donors had their own priorities to consider first. As a result, the SC’s efforts to generate buy-in for the priorities were quite premature.

During her first year as chair, Sierra faced the departure of two of her key associates, Francisco Reifschneider and Per Pinstrup-Andersen, both of whom decided to return to their research and academic posts in Brazil and the United States, respectively. They were replaced by Ren Wang of China, who became the CGIAR director, and Rudy Rabbinge of the Netherlands, who became the SC chair. Like their predecessors, they were both experienced in research and the CGIAR. Wang had served as vice president of the Chinese Academy of Agricultural Science and deputy director general of IRRI. Rabbinge had led CGIAR task forces on sustainability and served as the chair of the IRRI board. Thus, as in the first half of the decade, the CGIAR was led by a new team in its second half.

Although funding for the CGIAR had been increasing, there were several worrying signs on the ODA front. The boom years of the 1970s and 80s, when agriculture was given high priority, were long gone, as demand for ODA funds came increasingly from other sectors like health, education and energy. ODA to agriculture had declined from \$6.2 billion in 1980 to 2.3 billion in 2003 (converted to 2002 dollars), and support to agriculture from the multilateral development agencies similarly declined from \$3.4 billion to \$0.5 billion over the same period.<sup>55</sup> Consequently, the CGIAR had been taking an increasingly large share of agriculture ODA over time, which could not continue for too long. To complicate matters, new claims on donor funds were likely, as the previously dormant CP process had been restarted and ExCo had provided a green light for preparing proposals in three areas: climate change, high-value crops, and desertification. In view of growing global concern over climate change, the Group agreed at the 2007 United Nations Climate Change Conference in Bali, Indonesia, to pursue as well a CGIAR strategic initiative on climate change and to double research related to climate change.

Also troubling were the distribution and composition of funding to the CGIAR. Funding growth was not shared equally among Centers, with a few Centers facing serious difficulties, as reflected with the “red flags” they received on financial indicators of the Performance Measurement System. Regarding composition, the share of funding that was restricted continued to grow, reaching for the system as a whole 64% in 2007. For some Centers it was over 70%, with several serious implications. Having less funding that was unrestricted meant that the Centers had less freedom to allocate funds to high-priority projects, leaving some unfunded. Also, restricted funds could, unless chosen with great care, introduce distortions to the program directions of a Center and of the system. The danger was that a Center could turn into a consulting firm and lose the coherence of its research program. The CGIAR needed a coherent program not only at the system level but also at each Center.

## *Knowledge Intensification*

The enormous increase of the world population since the middle of the 20<sup>th</sup> century has not caused an increase in famine or a decrease in the availability of food worldwide. The improved availability of food (leaving aside how it is used or how accessible it is to the poor) arises mainly from intensification and much less from the expansion of cultivated area. This six- to eightfold higher productivity per hectare and per unit of labor — and, counterintuitively, per kilogram of external inputs such as fertilizer — mainly reflects knowledge intensification.

The CGIAR has played a vital and pivotal role in this respect. It has contributed to the increase in intervention based on insight and technology, the establishment of new and up-to-date institutions, and the formulation of policies attuned to the possibilities and needs of the developing world. In its 40 years of existence, the CGIAR has gone through seven phases of development as defined by the research agenda and the involvement of outside partners. No other nonprofit multilateral organization has had such enormous impact. The continuing and intensifying need for this informal, mission-driven and demand-oriented nonprofit organization is the *raison d'être* of the CGIAR. The passion of CGIAR scientists; the CGIAR's relentless battle for excellence, impact and relevance; and the willingness of the donor community to sponsor such a politically neutral but policy-relevant and irreplaceable organization cannot be debated. It is an honor and a privilege to be part of the organization and to help fulfill its honorable task for mankind.

### **Rudy Rabbinge**

*Board Chair, International Rice Research Institute; Chair, CGIAR Science Council*

There would be no problem if restricted projects were part of a coherent Center program and that program was aligned with system priorities.

The CGIAR's experience of a shift toward restricted funding was not unique. It was part of a trend in the donor community from funding institutions to funding programs and projects. New global initiatives were being structured mainly in program and project terms, such as the Global Fund to Fight Aids, Tuberculosis and Malaria; Fast Track Initiative for Education for All; Global Alliance for Vaccines and Immunizations; Cities Alliance; and Global Environment Facility. Program and project funding provided a more direct and transparent link between funding and results than could the more opaque funding of institutions. This is why the Bill & Melinda Gates Foundation chose to support individual Center programs or projects instead of becoming a core donor to the CGIAR. Over time, the Gates Foundation became one of the largest financial supporters of CGIAR programs, contributing \$61 million in 2009 and \$71 million in 2010, by selectively choosing the CGIAR activities it believed would make the greatest impact on agricultural development.

Many donors were disturbed that the existing funding arrangements did not ensure the alignment of funding with the system's agreed priorities. ExCo's ad hoc Committee on Funding System Priorities, chaired by Jonathan Wadsworth of the United Kingdom, assessed this alignment question in a few sample cases and found that there were mismatches and gaps that left priorities unfunded. There was also concern the 20 system priorities were not ranked or otherwise distinguished, which exacerbated allocation decisions.

The system faced not one but several alignment challenges, most notably aligning funding with system priorities, aligning Center programs with regional priorities, and aligning Center activities with partner activities. An alignment forum held before the ExCo meeting in Madrid in May 2007 concluded that the CGIAR should initiate a facilitated change management process to address these and other alignment issues. This was very much in line with the thinking of the Alliance, which argued that the CGIAR needed to build on the reforms made at the beginning of the decade and reposition itself to address current and emerging challenges more effectively. ExCo and the CGIAR agreed. As a first step a scoping team led by Peter Core of Australia was formed to shape the change management initiative.

## A Second Change Management Initiative

The CGIAR started its second change management initiative in a decade when the importance of agricultural development was once again enjoying heightened recognition globally. The *World Development Report 2008*<sup>66</sup> called attention to expanding demand for food, feed and biofuels; the consequences of climate change; rising energy prices; and the worsening scarcity of water and other natural resources. More sustainable production systems were needed, which the CGIAR could play a significant role in providing, as well as higher government spending on agriculture in least-developed countries. The report also highlighted how agricultural subsidies in rich countries weakened the competitiveness and income potential of agriculture in developing countries and underscored the need to reform policies in both groups of countries. The World Bank advocated a new "agriculture for development" agenda, akin to McNamara's call in the 1970s for a rural development agenda, and indicated it would continue increasing its lending to agriculture. This caught the attention of world leaders, and the Group of Eight declared its commitment to addressing this structural crisis at their 34<sup>th</sup> Summit in Hokkaido, Japan, on 7-9 July 2008.<sup>67</sup>

In retrospect, the timing of the *World Development Report 2008* was very fortunate, as it pointed to solutions to problems in agriculture. The relevance of the report's policy prescriptions became clearer, as did the role of investment in research, when severe food shortages began to be felt in poor developing countries and rising food prices sparked food riots. *The Economist* noted in its April 2008 issue that "the way to feed the world is not to bring more land under cultivation, but to increase yields, i.e., through science."<sup>68</sup>

Increasing yields through science had been demonstrated time and time again throughout the CGIAR's history. But empirical evidence of the impact of research on natural resource management and policy advice was insufficient. Studies started by the CGIAR's Standing Panel on Impact Assessment were now showing some results. A set of five micro case studies of research projects on managing natural resources showed that their internal rates of return were comparable to rates of return typically achieved by many agricultural innovations, though they were not as high as returns on crop improvement research. These returns did not, however, take into account the less-measurable environmental benefits from the projects. Regarding policy-oriented research, eight studies provided some quantitative assessment of impacts in terms of benefits. These ranged from tens to hundreds of millions of dollars each, with internal rates of return over 60%. Clearly, measuring the impacts of either natural resource management or policy-oriented research is fraught with methodological difficulties. Nevertheless, the limited evidence available suggested that the payoffs on investments in all types of agricultural research were significant.<sup>59</sup>

Ironically, the start of the change management initiative coincided with a scheduled independent review of the CGIAR system that the World Bank required as part of its support to global programs. Led by Elizabeth McAllister, a Canadian and former director of the World Bank's Operations Evaluation Department, the independent review would assess the effectiveness and efficiency of the CGIAR partnership. The CGIAR agreed to have the scope of the review broadened to include other aspects such as governance. The panel would complete its work by September 2008.

The CGIAR endorsed the scoping team's recommendations on next steps with minor modifications. The change management initiative would be led by the Change Steering Team co-chaired by Rodney Cooke, a Briton representing IFAD, and Jonathan Wadsworth, another Briton representing DFID, and assisted by four working groups on

1. visioning and development challenges, chaired by Jean Lebel of IDRC;
2. strategic partnerships, chaired by Martin Pineiro of Argentina;
3. governance at the Center and system levels, chaired by Peter Core of the Australian Centre for International Agricultural Research; and
4. funding mechanisms, chaired by Rob Bertram of USAID.

The chair of the independent review would be an external advisor to the Change Steering Team and help ensure synergy between the two initiatives. The entire process would be facilitated by external management consultants. The work on vision would precede the work on other topics so that the proposals on partnership, governance and funding arrangements could be made in view of the future vision and goals of the system. Each working group was composed of individuals from each major stakeholder group that made up the CGIAR.

Kathy Sierra guided the whole process and provided to the kickoff meeting of the Change Steering Team and the working groups her vision of change to be achieved through this initiative (Table 1).

Sierra had been uncomfortable since she became chair with the oversight and system management responsibilities of ExCo, the CGIAR and, by extension, herself. She wondered if this was the proper role for an informal donor support group. A few years previously the Group had decided to ask a Center to close. During her time another Center, CIAT, encountered financial difficulties despite CGIAR chairs' repeated citing of red flags on financial indicators year after year. Both the external review of CIAT and a paper commissioned by the Secretariat had found fault with the CIAT board's failure to prevent a crisis.<sup>60</sup> After a difficult discussion ExCo had requested Sierra, as CGIAR chair, to "discuss with the CIAT leadership a careful and deliberate plan to reconstitute the board and re-launch the search process for a new director general." She did as requested and the board was reconstituted, but, as she told the Change Steering Team afterwards, she wondered if this was the best way to manage the CGIAR.

TABLE 1: VISION OF CHANGE MANAGEMENT IN THE CGIAR

FROM	TO
Mission creep and trying to do everything	A clear vision with focused priorities that respond to global development challenges
Duplicative mandate of the Centers without a clear systemwide vision or strategy for impact	Centers that collaborate and work toward the system agenda and priorities and deliver impact
Complex and cumbersome governance and lack of accountability	Streamlined and effective system-level governance with clear accountability
Static partnerships that do not enable scalable impact and research adoption	Strong and innovative partnerships with NARS, the private sector and civil society that enable impact
Lack of coordination among investors	Strengthened, coordinated funding mechanisms that are linked to the system agenda and priorities
Declining core resources	Stabilization and growth of resource support

Sierra was familiar with other global funding mechanisms involving the World Bank, including the recently established Climate Change Funds, in which donors pooled their resources as stated in the Paris Declaration,<sup>61</sup> an international agreement calling on countries and organizations to harmonize and align their actions and manage their aid for results. This had been talked about in the CGIAR for decades but never seriously attempted. Over the years, only the World Bank, whose contributions to the CGIAR had leveled off at \$50 million a year, had served as an unselfish “system donor,” channeling its resources to the areas and Centers in the best interest of the system.

The change management initiative consumed the energy of the entire CGIAR leadership throughout 2008. The Change Steering Team and the working groups interacted frequently, holding at least four face-to-face meetings, a few of them overlapping with the meetings of the independent review panel. To solicit views from developing country stakeholders, the team held consultations in Africa, Asia and Latin America. The working groups and the independent review panel prepared their separate reports by mid-September 2008. These were synthesized by the Change Steering Team in an integrated reform proposal for discussion at the October ExCo meeting and later at the AGM in Maputo, Mozambique, in December.<sup>62</sup>

The building blocks of the new CGIAR became clear early on in the process: a programmatic approach, the establishment of a fund and assigning system management responsibility to a system-level board. There was convergence of views with the independent review on these and several other aspects of the needed changes. One major difference of opinion regarded the locus of the system-level board. The governance working group recommended having this board appointed by the donors contributing to the new fund, while the independent review and the Alliance preferred to have the board appointed by the Centers as the apex unit of a consortium of centers (an idea that had its roots in the federation proposal of 2000). Kathy Sierra and the Change Steering Team agreed with the latter approach.

At the 2008 AGM the CGIAR discussed the integrated reform proposal and the report of the independent review. The proposed vision of the new CGIAR was “to reduce poverty and hunger, improve human health and nutrition, and enhance ecosystem resilience through high-quality international agricultural research, partnership and leadership.” Its strategic outcomes were reduced rural poverty, improved food security, improved nutrition and health, and sustainably managed natural resources.<sup>63</sup>





One of the basic principles underpinning the proposed reform was the organizational separation of those who implement CGIAR research (the “doers”) from those who fund it (the “funders”). The Centers would establish a separate international organization called the Consortium of International Agricultural Research Centers, with a board, a chief executive officer (CEO) and the Consortium Office. The Consortium would represent the Centers and the CGIAR system. The counterpart of the Consortium on the funders’ side would be a strategic financing facility called the CGIAR Fund, with the Fund Council as its executive arm, supported by the Fund Office. The Funders Forum would bring together all funders every 2 years, including those not actively contributing to the CGIAR Fund.

A second basic principle was to shift financing through the CGIAR Fund increasingly toward global programs, initially called mega programs but later called CGIAR Research Programs (CRPs), designed to contribute to the agreed Strategy and Results Framework (SRF), which provided a roadmap to achieving the new vision and strategic objectives. The SRF would be prepared by the Consortium in collaboration with stakeholders. Endorsement by donors at the Funders Forum would give license to the Consortium to develop CRPs that operationalized the SRF. These would be submitted to the Fund Council for approval and financing.

A third principle was that the twin “pillars” of the system, the Consortium and the Fund, would be connected by four bridges to ensure the integration and connectedness of the entire system as a balanced partnership. Four key bridges were

1. the SRF as the overarching strategic agenda to which both the funders and the doers subscribe;
2. the biennial Global Conference on Agricultural Research for Development, organized jointly by GFAR and the CGIAR to better align the work of the CGIAR with global and regional needs and activities;
3. binding program performance contracts for each CRP between the Fund and the Consortium and between the Consortium and the Centers; and
4. the SC reconstituted as the Independent Science and Partnership Council (ISPC) to conduct foresight studies, facilitate partnerships and provide core scientific advice to the Fund and, upon request, to the Consortium.

A fourth principle was to strengthen accountability through results-based contracts, streamlined monitoring and evaluation mechanisms, and a new independent evaluation arrangement reporting to the Fund Council. The Centers, as institutions, would no longer be accountable to the donors as a group, as was the case in the old CGIAR. Their accountability would be ensured mainly through formal performance agreements with the Consortium and other Centers or with projects bilaterally funded by donors. An ad hoc evaluation arrangement would review the implementation of the SRF and the functioning of the system every 6 years.

The CGIAR approved these reform proposals and the recommendations of the independent review, which mirrored them, at the 2008 AGM in Maputo. As putting these reforms into action would require considerable effort, a transition management team (TMT) chaired by Sierra was established to coordinate the operationalization of reforms that Centers, donors and other stakeholders had agreed on. The target date for beginning the new chapter in the CGIAR’s life was set as 1 January 2010.

## Transitioning to the New CGIAR

The Maputo decisions gave new momentum to reform. Work proceeded along several tracks coordinated by the TMT. GFAR was intimately involved, with its executive secretary serving as a member of the TMT, as were the Centers through the chair of the Alliance Executive. On the program side, as the entire process was driven by the SRF, Centers were busy drafting the new

strategy, while GFAR shaped the first Global Conference on Agricultural Research for Development (GCARD), where the SRF would be discussed.

The Alliance developed a business plan for the Consortium, with help from an external consulting company. Besides the business plan, a draft constitution for the Consortium was being prepared. To have the Consortium up and running by the end of the year, its board would need to be appointed, which meant that the search and nomination effort would need to start as soon as a draft constitution was ready.

Preparations on the Fund side progressed along two tracks. The Secretariat helped the donors prepare a framework document for the CGIAR Fund. The second track involved setting up a trust fund. Having been briefed by Sierra on the CGIAR reforms, the World Bank board agreed to have the bank serve as the trustee of the new Fund. World Bank staff involved with trust fund operations began devising procedures for establishing the Fund.

A third activity was to develop an accountability framework that came to be called the *Monitoring and Evaluation (M&E) Framework*. The draft framework introduced two key concepts: (1) mutual accountability for outputs, with Centers and the Consortium held fully accountable for producing high-quality products, Fund donors responsible for the aligned provision of funds, and (2) shared responsibility for outcomes, with the Consortium, donors and partners sharing responsibility for managing toward outcomes.

The final major activity was to transform the SC into the ISPC. The TMT took responsibility for this and developed terms of reference for the ISPC, which were subsequently endorsed by ExCo. It was envisaged that the current SC would serve as the interim ISPC in 2010.



ExCo met twice in 2009, holding its 17<sup>th</sup> and final meeting at IFAD headquarters in Rome on 3-4 November. It identified a number of issues that needed further clarification in preparation for the AGM in Washington to be held a month later. The key sticky issues for discussion included

- fiduciary responsibility for the use of funds,
- the locus of oversight for the system,
- bilateral funding and full cost recovery,
- the roles of cosponsors,
- the membership and composition of the Fund Council, and
- the “windows” of the new Fund.

Some issues not fully resolved until 2010 were how to define each window of the Fund, what the arrangements would be for full cost recovery and clarifying the flow of fiduciary responsibilities and associated remedies. Agreement was reached on most other issues. There would be no single body overseeing the system as had the Consultative Group. A dispute-resolution mechanism would be established to handle possible conflicts. Cosponsors would no longer have special status. Bilateral funding would be allowed if the activities were consistent with the SRF. The Fund Council would maintain a North-South balance, and each constituency would be free to rotate its seats according to its own rules.

In addition to discussing these issues, ExCo developed a joint declaration to be proposed for adoption by the CGIAR community at the 2009 business meeting. The founding documents of the New CGIAR would be the *Joint Declaration*, *Consortium Constitution*, *CGIAR Fund Governance Framework*, and *M&E Framework*. The *Joint Declaration* was a nonbinding statement of aspiration and intent. It described the new vision and strategic objectives and the fundamental principles that underpinned reform, as well as the roles and responsibilities of donors, the Centers and the new CGIAR bodies as outlined in the other three founding documents. The core principles were

- harmonization,
- managing for results,
- effective governance and efficient operations, and
- strong collaboration and partnership.

At the final CGIAR meeting, members unanimously endorsed the *Joint Declaration* and the other three founding documents. They adjusted the composition of the Fund Council to allow the Bill & Melinda Gates Foundation to become a member in recognition of its increasingly significant support for agricultural research through its bilateral funding of Centers and their research partners. At the AGM the Alliance announced the appointment of the leadership of the Consortium board, with Carlos Pérez del Castillo as chair and Bongiwe Nomandi Njobe and Carl Hausmann as co-vice chairs. Pérez del Castillo was from Uruguay and had a long and successful history of international and national public service, including serving as chair of the World Trade Organization panel established to examine the aircraft manufacturing dispute pitting the United States and Boeing against the European Commission and Airbus, chairing the World Trade Organization General Council, and serving as Uruguay’s vice-minister and acting minister of foreign affairs.

Thus began a new chapter of CGIAR history, bringing to an end the Consultative Group and the other system units that had served it over the previous 4 decades. Financially, the CGIAR had ended its final year of operations with \$606 million in contributions, in nominal terms the highest amount in its history.



## *Critical Influence*

The work of the CGIAR is critical to world food security and helping millions of smallholder farmers build better lives for their families. As such, it is also critical to the Bill & Melinda Gates Foundation's mission of increasing sustainable productivity to reduce poverty and improve nutrition.

The CGIAR has related to much of my career, either directly or indirectly, and so I have had the pleasure of a long and multifaceted relationship. I was the chief executive of a major seed company for a number of years, and our product lines benefited from CGIAR breeding materials — whether maize from CIMMYT or sorghum from ICRISAT — and were critical to our success. Now, as the director of agricultural development at the Gates Foundation, I work with a team that engages with the CGIAR as one of our most important grantees and valued partners. We work closely with many of the Centers, and as such we are one of the system's major funders. As a member of the Fund Council, we're also active in the current reform process.

I have seen the CGIAR system change over the years and respond to shifts in technology and issues such as intellectual property. It is encouraging to see the CGIAR building stronger relationships with the private sector to develop public goods for smallholder farmers. My team and I look forward to seeing the positive changes continue and to working together to help millions of farming families pull themselves out of hunger and poverty.

**Sam Dryden**

*Member & later Chair, CGIAR Private Sector Committee; Member, CGIAR Executive Council*









While agreement was reached on the major pieces of the New CGIAR, making them fully operational proved to be time consuming and painstaking. The World Bank board approved establishing the CGIAR Trust Fund on 12 January 2010. Inaugural meetings of the Fund Council and the Consortium board followed. Draft rules of procedure for the Fund Council prepared by the CGIAR Secretariat (which would become the Fund Office) were adopted at the first Fund Council meeting. The Fund Council received an update from Pérez del Castillo, who noted what the Centers expected from the Consortium: “To serve as facilitator of their work by contributing to fostering better international policy for agricultural research; to represent them in [the] international arena with [a] unified voice; to contribute to the mobilization and expansion of resources for research; to simplify the organizational structure, decrease administration and transaction costs, and provide good governance.”<sup>64</sup> The Fund Council agreed on a process for nominating and selecting the ISPC and handled other administrative matters.

At its first meeting, the Consortium board addressed administrative tasks such as selecting a CEO and a headquarters location and substantive concerns such as the content of the SRF and the possible CRP portfolio to propose to the Fund Council. Because CRP proposals were not all at the same stage of development, it was decided at donors’ insistence to have three CRP proposals fast-tracked to get funding underway in 2010. The number was later cut to two: the Global Rice Science Partnership (GRISP) and the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). There had been significant advanced work on both. Preparations by the three CGIAR Centers researching rice — IRRI, AfricaRice and CIAT — to integrate their programs were well advanced. Regarding climate change, a CP had been designed after the freeze on CPs was lifted, and the CGIAR had begun playing a leading role in the global dialogue on agriculture and climate change, such as through its strong showing at the 15<sup>th</sup> Conference of the Parties to the United Nations Framework Convention on Climate Change in Copenhagen, Denmark, in December 2009.

With the Fund Council and Consortium board in place, the CGIAR presented its new face at the first GCARD, in Montpellier, France, in March 2010. Delays in developing the SRF prevented having it discussed at GCARD or the first Funders Forum, held at the same time. However,





the early drafts of the SRF and the initial set of seven CRPs provided some insight regarding the alignment of regional priorities identified during the year-long consultation processes organized by GFAR and those in the draft SRF. The team commissioned by GFAR to examine progress in transforming the global system of agricultural research and development concluded that “at the broad level there was no inconsistency between the regional priorities and the 7 CRPs...and that this broad level of convergence could lead to a significant alignment of priorities.”<sup>65</sup>

Operating the New CGIAR required agreement on the formal arrangements of the partnership. The CGIAR had heretofore operated within a rather loose and informal architecture at the system level. Under the New CGIAR, the donor group would need to have the means to interact formally with the Consortium, and the same degree of formality was required in the Consortium’s relationships with Centers and other partners. This meant significant work to get the legal framework of the new system constructed, in which consistency was critical. The key pieces of the legal framework included

- the *CGIAR Fund Governance Framework*, based on the CGIAR-approved Fund framework paper;
- an agreement on contributions to the CGIAR Fund between individual Fund donors and the World Bank as the trustee, describing respective responsibilities and the operational modalities of the CGIAR Trust Fund;
- the *Joint Agreement* between the Consortium and the World Bank (acting as the agent of the Fund Council), describing respective responsibilities, operational modalities and remedies that would apply to specific program performance and other agreements;
- an establishment agreement to create the Consortium as an international organization, signed by countries and international organizations; and
- a headquarters agreement between the Consortium and the country hosting its headquarters and describing conditions for operating in the country, including privileges and immunities (with the Consortium operating under the legal umbrella of Bioversity until the headquarters agreement was signed).



Having the donors agree with the governance framework and contribution agreement was necessary for establishing the Trust Fund at the World Bank. The *Joint Agreement* needed to be finalized before any disbursements could be made from the Trust Fund. Donor concerns on issues like donor risk, responsibility and liability, as well as intellectual property rights, were clarified in successive virtual meetings held throughout the year. In addition, progress was made on defining the operational aspects of the relationship between the entities. The Fund Council and the Consortium jointly began to develop a common operational framework whose various chapters described specific operational areas such as planning, budgeting, proposal development, M&E and coverage of system costs. The Centers and the Consortium were to jointly develop procedures describing their contractual and operational relationships.

The most debated aspect of reform was on how donors would be able to channel their contributions. The Fund was initially conceived as a vehicle for pooling contributions so that they could be allocated collectively to the highest-priority programs. However, the donors had their own priorities and were accustomed to targeting their funds to their preferred areas, increasingly so in recent years as shown by the rise in restricted contributions. The Fund was therefore designed to allow interested donors to target their contributions to approved CRPs. The thinking in the beginning was to have two windows, one for unrestricted, pooled contributions and the other for contributions to specific CRPs. Donors who preferred to channel their contributions directly to a Center, instead of through the CGIAR Fund, would still be able to do so bilaterally if the activities they supported contributed to the CGIAR SRF.

However, some donors expressed strong preference to channel their contributions to specific Centers through the CGIAR Fund, especially during the transition to a full portfolio of CRPs. Thus, a third window was added to the Fund structure for a 2-year transition period before its possible continuation would be reviewed. The Fund Council would not enter into any contractual relationships with the Consortium with respect to the use of so-called window 3 funds. The trustee would simply transfer the funds to the Center at the donor's request. How these funds were to be used would be decided bilaterally by the Center and donor, outside the CGIAR Fund architecture.

Piece by piece, the bricks making up the New CGIAR were being laid. The first Funders Forum, postponed from the spring of 2010, was held on 15 July at FAO headquarters in Rome. The key items on the agenda were the draft SRF and cost-sharing arrangements among donors to cover common system-related costs. The donors found the SRF to lack clear links between strategic objectives and the suggested CRPs and impact pathways, endorsing it only as a "work in progress" and giving a green light to the further preparation of the two fast-tracked CRPs, GRISP and CCAFS. As no CRPs had yet been approved and funded, budgeting and resource allocation in 2010 essentially followed the previous rules of the CGIAR. The budget envelope for 2010 was projected at \$640 million.

As the bricks of reform were laid, the key architect of reform, Kathy Sierra, decided to retire from the World Bank, to be replaced by Inger Andersen of Denmark. Andersen was an experienced manager with deep understanding of sustainability issues, particularly in Africa and the Middle East. Sierra chaired her last Fund Council meeting in July, held in conjunction with the Funders Forum with Andersen participating as an observer. At the request of the Consortium, it was agreed that an overarching legal document, later called *CGIAR Principles*, should be prepared as a part of the package of legal documents.

By the time the Fund Council met in November under Andersen as its new chair, the Consortium had selected Montpellier for its headquarter and Lloyd Le Page of the United Kingdom as its CEO, approved the proposals for first two fast-tracked CRPs for submission to the Fund Council, made progress in crafting the wheat and maize proposals that would follow, and agreed on how to handle existing CPs, which would either be blended into CRPs or provide services to them. The leadership of the Fund Office also changed, as Ren Wang decided to return to China to join the management

of the Chinese Academy of Agricultural Science. While a search for his replacement was under way, Fionna Douglas of Australia was appointed as the interim executive secretary. Douglas had earlier served in a similar capacity after the departure of Francisco Reifschneider.

The Fund Council approved the latest versions of the *CGIAR Principles*, the document on Fund governance and the contribution agreement, paving the way for Fund donors to contribute to the CGIAR Fund in 2010. It approved the chair and membership of the ISPC. The new chair, Kenneth Cassman, was a distinguished scientist from the University of Nebraska and a former researcher at IRRI. GRiSP and CCAFS were approved, subject to some revisions and the approval of the SRF, whose completion had been postponed to 2011. These two CRP proposals, although not in their final shape, showed how the new programs were likely to integrate closely related activities within the system. GRiSP's coordination and oversight mechanisms would help elevate the synergy of the rice programs of IRRI, CIAT and AfricaRice, in addition to linking CGIAR work with that of other key global research institutions. The approved budgets of both CRPs were larger than those of existing Centers, on the order of \$100 million annually for GRiSP and \$65 million for CCAFS.

## Making the New CGIAR Work

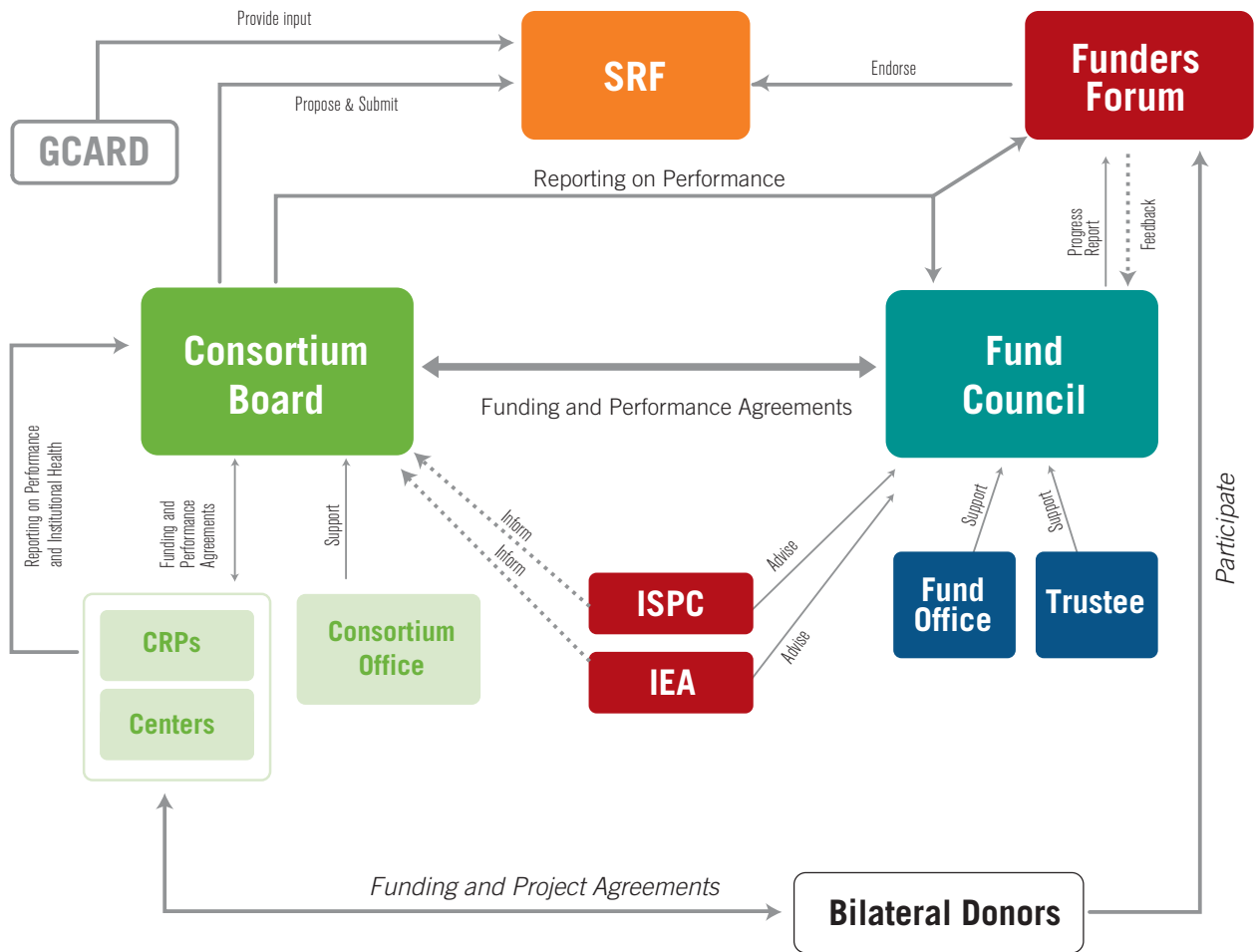
As a first order of business in 2011, the chairs of the Fund Council and the Consortium board visited key donors to seek their reaffirmed support to the New CGIAR and ensure that their funding would continue uninterrupted under the new arrangements. Having received donors' unequivocal support, the Fund Council and the Consortium proceeded to put the remaining pieces of the New CGIAR in place. The appointment of Jonathan Wadsworth as the Fund Council executive secretary and head of the CGIAR Fund Office early in the year brought into the picture someone fully familiar with the entire change process.

The top priorities for the Consortium were to bring work on the SRF to completion; identify the full complement of CRPs that would make up the CGIAR portfolio, based on external reviews of the proposals developed by the Centers; conduct scoping studies on gender, genetic resources and intellectual property, which had been identified as crosscutting issues; and complete its own establishment as an international organization. For the Fund Council, the top priorities were to make the CGIAR Fund operational and able to receive and disburse funds and to arm the Fund with sufficient resources to meet at least current needs, which required that parties agree on all remaining legal documents.

The development of the SRF was a challenge for the Consortium because of the multiple demands and pressures it faced. Donors were looking for clear impact pathways between development outcomes and CRPs. The Centers — always competitive — were each trying to ensure that their planned activities were recognized as components of the SRF. Partners were concerned that the Centers might not fully recognize the contributions they could make. The SRF was finally approved at the ad hoc Funders Forum in July 2011, a year after the initial target date.

The development and review of each CRP proposal by external review panels, the Consortium board and the ISPC also took time. This was a sequential process, but the Fund Council found a pragmatic, systematic approach to speed their consideration. Four decision categories were established: (1) approval with light adjustments, (2) approval with conditions, (3) requested resubmission of the proposal with substantial revisions, and (4) rejection. At its 4<sup>th</sup> meeting in Montpellier in April 2011, the Fund Council provided green lights (category 1 or 2 approval) for three proposals on (1) dryland systems; (2) maize; and (3) forests, trees and agroforestry, as well as approving stopgap funding for genebanks.

## HOW THE NEW CGIAR WORKS



This brought to six the number of CRPs to be financed through the Fund, once the proposals with category 2 approval satisfied the conditions, including the two proposals on rice and climate change approved in 2010. To these were added six other CRPs at the next Fund Council meeting in Washington in July 2011 on (1) wheat; (2) meat, milk and fish; (3) aquatic agricultural systems; (4) policies, institutions and markets; (5) roots, tubers and bananas; and (6) agriculture for improved nutrition and health.

In terms of their organization, all CRPs shared a few common features: one lead Center, a planning and management committee involving key collaborators, and mechanisms for obtaining independent scientific advice and resolving conflicts. This brought some uniformity to the structure of the programs. There were also differences among the CRPs in terms of management arrangements and the sharing of responsibilities as agreed during negotiations establishing each joint venture.

While the CRPs were the main delivery mechanism for the CGIAR's strategic outcomes, there were several issues and themes that cut across most or all CRPs. Rather than handling them as additional CRPs, the Consortium developed separate strategies for addressing them. Scoping studies were prepared on two: gender issues and genetic resources. On a third issue, intellectual property,



the Consortium prepared a paper on intellectual property principles that, after discussion by the Fund Council, would become part of the common operational framework between the Fund and the Consortium. As intellectual property is a highly controversial issue, further discussion was necessary before it is finalized.

Regarding genebanks, there was wide consensus among donors and stakeholders that funding was needed to maintain them at the highest, most scientific level. The question was whether their funding should depend on ad hoc and time-bound mechanisms like CRPs or on a longer-term or perhaps permanent arrangement. The Fund Council agreed to explore means of securing long-term financing such as through an endowment while providing short-term financing for 2011.

On the Fund front, the *Joint Agreement* — the last remaining legal piece — was approved after 10 months of intensive discussions involving all parties. This meant that funds could be disbursed to the Consortium for the approved CRPs from windows 1 and 2. This was an umbrella agreement between the Fund and the Consortium. It included as an attachment the forms for Consortium performance agreements, which would govern the results-based contractual relations between the Fund and the Consortium. In addition, the Fund Council advanced the process of establishing an independent evaluation arrangement. After a study by external experts, the Fund Council and the Consortium agreed to have a single mechanism for evaluation in the system, instead of one dedicated only to the needs of the Fund Council. This entity would be staffed by a small group of professionals and based at FAO, preferably co-located with the ISPC Secretariat. Like the ISPC, it would report to the Fund Council.

With legal and administrative obstacles out of the way, donors began to contribute to the Fund. By November 2011, 24 donors had channeled \$332 million to the Fund, with five making multiyear contributions. Total inflows for the year were expected to reach \$425 million.

## The Remaining Agenda

The top priority for the Centers and the Consortium had been to complete the portfolio of CRPs that would fully operationalize the SRF. With 12 programs approved, only four remained for review and approval: grain legumes; dryland cereals; the humid tropics; and water, land and ecosystems. These four were discussed by the Fund Council at its sixth meeting in November 2011. It approved three of the four with light adjustments or conditions but requested that the humid tropics be resubmitted with substantial revisions.

The finalization of the CRP portfolio completed the integration of the former CPs into the CRP structure. Three of the five active CPs had obvious, natural homes in the CRPs, with the Challenge Program on Water and Food integrated into the CRP Water, Land and Ecosystems; Harvest-Plus integrated into the CRP Agriculture for Improved Nutrition and Health; and the Challenge Program on Climate Change, Agriculture and Food Security integrated into the CRP CCAFS. The basic genomic work of the Generation Challenge Programme on major crops was to be integrated into the appropriate crop CRPs and the rest to be consolidated into the Genomics and Integrated Breeding Service, which would be open to a broader set of users within and outside of the CGIAR. The SSA CP was the only CP coordinated by an entity outside the CGIAR entity and therefore lacked a natural home in a CRP. After some intense discussions, that CP found a home in the CRP Integrated Systems for the Humid Tropics in view of their substantial regional overlap.

As the CRP portfolio was being completed, Centers, the Consortium and donors alike began to focus on financing the full portfolio. Financial results for 2010 showed funding reaching \$645 million, of which \$200 million, or 31% was unrestricted. The Centers had ended the year with an operating surplus of \$39 million. The Consortium estimated that total funding for 2011 from all

sources would reach \$706 million, some \$60 million above 2010 funding. However, the funds available in windows 1 and 2 were not likely to be sufficient to meet demand on these windows from the CRPs, requiring adjustments by the Fund and the Consortium.

The possibility of commitment and funding gaps triggered a discussion of efficiency. It was clear to all that the new system was still being established and some time would be required for all parties to adjust to the new setup. There was discomfort at the lack of clear and transparent information on the cost structure of the CRPs, as administrative costs seemed to vary between 5% and 20% of CRP's total budgets. At its 5<sup>th</sup> meeting in Washington, DC, the Fund Council agreed that the Consortium and the Fund Office would jointly develop metrics "to measure efficiencies in terms of money, productivity, outputs etc. in each of the CGIAR units."<sup>66</sup> In addition, the Consortium was to report on progress toward building "one corporate system."

By the autumn of 2011, most of the components of the new CGIAR were in place. One remaining item on the agenda was to complete establishing the Consortium's status as an international organization. The first ever Group of 20 International Conference on Agriculture Research for Development on 12-13 September 2011 under the French presidency of the Group of 20 provided a perfect setting to initiate formalization. Following the conference, the French minister of cooperation, Henri de Raincourt, and the ambassador of Hungary, Sem Laszlo Trocsanyi, signed the agreement establishing the Consortium as an international organization. The agreement was now open in Paris for other countries and international organizations to sign before its ratification.

As the institutional setting up of the new CGIAR was being completed, changes were taking place in its leadership. The Fund Council chair, Inger Andersen, was assigned to another vice presidency at the World Bank and handed responsibility over to Rachel Kyte, the incoming vice president of sustainable development. The resignation of the Consortium CEO Lloyd Le Page initiated a search for his replacement. The Consortium board established an executive committee to oversee the Consortium Office and ensure no disruption in the functioning of the Consortium until a new CEO was appointed.

As its 40<sup>th</sup> year drew to a close, the last remnant of the Consultative Group was in the abbreviation "CGIAR," which its successor organization retained as it pursued the same developmental mission. Similarly, its donors held the same conviction that investment in science remained one of the best strategies for fighting poverty.





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# GOVERNANCE PRINCIPLES

The CGIAR at 40

Speaking at the 20<sup>th</sup> anniversary of the CGIAR, Derek Tribe, executive director of the Crawford Fund for International Agricultural Research in Australia, described how the founding fathers “were instrumental in creating the unique jellyfish structure.”<sup>67</sup> Warren Baum expressed the same idea during his commemorative address at the 25<sup>th</sup> anniversary of the CGIAR:

For an international activity that immediately began to function on its own, the organizational structure and procedures [of the CGIAR] were extraordinarily loose and informal. Decisions had to be made without any voting system, and none was ever devised; these decisions had to be binding within an organization that had no legal identity; and funds had to be pledged and commitments honored without any method of cost sharing, since as is in the case of voting, no formula could fit so diverse a collection of international, regional, national, and private donors. Under other circumstances, these characteristics could be a recipe for failure, but for the CGIAR they have generally been sources of strength.<sup>68</sup>

## Principles in the Old CGIAR

The characteristics Baum was talking about served as the guiding principles of governance in the CGIAR for over 3 decades and enabled it to adjust to changing needs.<sup>69</sup> These were

- donor sovereignty,
- center autonomy,
- consensus decision-making, and
- independent scientific advice.

**Donor sovereignty.** Donors were sovereign in that each was free to decide the amount and use of their contributions. The Consultative Group served as a forum for discussion and debate on priorities and ways of maintaining the health of the system and its Centers. When the Group approved a set of priorities or the program proposal of a Center, this was in effect a call to each and every donor to provide financing in support of the decisions agreed by the Group. It was an indicative call, not an imperative one. Unrestricted funding to a Center was the easiest way a donor could support the Group’s decision, and several donors used it, especially in the beginning. USAID, for example, committed to providing up to 25% of the agreed CGIAR budget in the 1970s. This plus the World Bank’s funding of 10-15% provided sufficient freedom for the system to meet its budgetary goals. If a donor wished to target its contributions to a specific project or program of a Center, this restriction did not distort program coherence so long as the project or program was within the agreed agenda of the system and unrestricted funds were sufficient to support unfunded priority activities. If a Center did not have sufficient unrestricted funds to support its program as approved by the CGIAR, for many years the World Bank came to the rescue as the donor of last resort or balancing donor. The bank discontinued the practice when it became obvious that it had become a perverse incentive allowing some Centers to “game” the system by showing artificially high funding gaps.

Donors liked the CGIAR in part because of the sovereignty they enjoyed in the system. They also liked that the main overheads of the system were covered by cosponsors, with the World Bank paying for the Secretariat and the cosponsors collectively paying for TAC and the TAC Secretariat. This meant that other donor contributions went directly to supporting research.

**Center autonomy.** The initial Centers like IRRI and CIMMYT were established as autonomous organizations, accountable only to their governing bodies as defined in their charter, usually a board of trustees. This enabled them to observe signals from the CGIAR, individual donors and their other stakeholders when developing program proposals to submit to the Consultative Group for funding. As the Group itself was not a legal body, the only legal entities in the system were the Centers.

What lay behind the concept of Center autonomy was the conviction that decisions on science should be made as close to the scientists as possible. The system should not try to manage science from afar. However, the autonomy that came with decentralized management needed to be coupled with some form of oversight to ensure accountability. Thus, the CGIAR served as the oversight body, with TAC and the CGIAR Secretariat as its facilitating arms.

Though they were autonomous, the Centers were not fully independent in that they depended almost exclusively on the members of the Consultative Group for funding. This meant that, as long as they wished to remain under the CGIAR umbrella, they needed to abide by the corporate norms and processes set by the CGIAR. It also meant that, although they were not formally accountable as organizations to any outside entity, they were expected to act *as if* they were accountable to the CGIAR.

A major consequence of 20-plus years of autonomy — 40-plus years for some Centers — is the maturity each Center has reached as an organization and research institution. Having been in the business for a long time, each Center has developed and strengthened its ties with donors, partners, host countries and others. This has allowed them to build and nurture trust, competence and comparative advantage. Each Center is now not only a national asset in its host country, as Ian Johnson had argued, but also a global asset.

**Consensus decision-making.** This principle was necessary to maintain unity within the Consultative Group. As indicated by Baum in the quote at the top of this section, the alternative to consensus decision-making was a form of voting, which would produce winners and losers and risked the development of factions in the Group. Though more costly in terms of time, consensus decision-making sought win-win decisions and a satisfied donor constituency.

Ismail Serageldin defined consensus as “a decision everyone can live with.” Consensus placed significant responsibility on the chair and the Secretariat to canvas members’ views, clarify the options and, sometimes, twist arms. In the end, the Group looked to the chair to express the consensus view following each discussion. More often than not, the Group agreed with the chair’s articulation of the consensus view. If some members remained unconvinced, taking a break in the meeting or postponing decision to a later date helped surmount the impasse. Although none of the decisions of the CGIAR were binding on members, having been a party to the decisions placed a subtle pressure on the representatives to take the necessary steps in their institutions to promote formal action toward the consensus view. The decisions of the CGIAR vis-à-vis Centers placed stronger pressure on Center boards because of their dependence on the members of the Group for funding.

**Independent scientific advice.** This principle has been the glue to make the other three principles work. Credible, objective analysis and recommendations from TAC and then the SC facilitated reaching consensus in the Group. They provided the rationale for the Group’s investment decisions, which served as a guide and reference for individual donors. Having a technically sound system strategy a step up from the programs of individual Centers clarified the direction the system was headed in the medium and long term. The agreed priorities provided strategic guidance to Centers and a yardstick to donors for their resource-allocation decisions.

Having an independent advisory body meant disagreements with donors and Centers. When the priorities of a donor or the strategic plans of a Center conflicted with the advice given by TAC or the SC, which was not too uncommon, the Group had final say. In these instances, political imperatives often trumped scientific and technical analysis. That the debates aired in the open CGIAR forum, though, reflected the transparency that existed in the system and improved the credibility of the CGIAR.

The extent to which this governance principle served as glue depended on the strength of TAC or SC relative to that of donors and Centers. The strength of TAC or the SC was a function of the quality of its advice, which depended on the council’s membership; its chair’s skills of

persuasion; and, most importantly, the incentives that backed its recommendations. That the World Bank served as the donor of last resort meant that at least one donor would allocate its resources in a way that backed TAC recommendations. When the bank changed its funding policy, there was a noticeable drop in the relative strength of TAC and later the SC, as the power balance that existed among the three major components shifted more toward donors and Centers.

## Principles in the New CGIAR

The New CGIAR is built on a new set of governance principles. Two of the original four principles have lost emphasis, but the other two remain essentially intact.

**Donor sovereignty.** The picture is mixed regarding this principle. Bilateral donors continue to enjoy the same sovereignty they did in the old CGIAR, but they do not have the privilege to contribute to decision-making as in the old CGIAR unless they also contribute through the CGIAR Fund. There is no weakening of the sovereignty of Fund donors as long as window 3 remains open, which gives them the opportunity to contribute to the Centers of their choice in line with side agreements outside the Fund structure for specific projects. Donors contributing to the pooled window 1, however, agree to leave decision-making to the Fund Council. This is seen as limiting sovereignty, albeit for the benefit of generating a larger resource pool that can be used for greater impact. In short, the emphasis on the principle of donor sovereignty has been somewhat weakened in the New CGIAR for the sake of strengthening harmonization among donors.





## *Broadened Agenda*

For 40 years I have had the pleasure of working within the CGIAR, as an agronomist, donor and board chair.

The CGIAR is a remarkable phenomenon. Much has changed and much has been achieved since it was created. We should honor those who had the vision to create it. It has achieved much because of its informality, responsiveness, adaptability and mission. It has captured the imagination and support of successive generations of scientists and aid officials. People have made it work.

While the rhetoric has been that funding should follow science, the reality has been that funding and the policies of donors have always dominated the agenda. As the membership expanded, the agenda broadened. As aid agencies have come under mounting pressure to show impact toward achieving the Millennium Development Goals, they have asked that Centers show that their research is not only of the highest quality but has reduced hunger, poverty and environmental degradation.

Converting global public goods into development outcomes will require new partnerships and alliances. It is to be hoped that this latest reform will support the building of those partnerships that will produce more food for more people using fewer resources.

### **Andrew Bennett**

*Representative of United Kingdom to the CGIAR; Chair, CGIAR Oversight Committee; Board Chair, Center for International Forestry Research*



**Independent scientific advice.** An independent scientific advisory body still serves the New CGIAR but with a significantly reduced mandate. Donors can continue to seek and receive advice from this body as and when necessary, but responsibility for developing strategies and priorities for the system is transferred to the Consortium and responsibility for evaluation to a new unit. The ISPC has no strategic guidance and oversight responsibility vis-à-vis Centers. Its influence on the system is mainly through the advice provided to the Fund Council.

**Center autonomy.** Centers are no longer accountable to a donor group (i.e., the Fund Council) as there is no direct relationship between that group and individual Centers. The Center oversight and accountability mechanisms that existed in the old CGIAR have been replaced with new, mainly contractual, tools. While each Center has delegated some powers to the Consortium, mainly in the areas of inter-Center relations and dispute resolution, the Consortium is a creation of the Centers and does not possess direct oversight powers on them, except as prescribed in program implementation contracts. Therefore, it could be argued that, at the

moment, Centers perhaps have greater autonomy in managing their affairs than in the old CGIAR. However, the power balance between individual Centers and the Consortium is likely to evolve over time as the New CGIAR becomes fully operational.

**Consensus decision making.** This remains the rule in the Fund Council and the Funders Forum, aiming, as it did in the old CGIAR, to maintain unity among donors. The Consortium board aims to make its decisions by consensus to the maximum extent possible but resorts to voting when consensus is not possible.

The governance principles that guide the New CGIAR are quite different from those of the old CGIAR. In addition to Center autonomy and, to a lesser extent, consensus decision making, three guiding points reflect the core of the new governance principles:

- the separation of funders and doers,
- the harmonization of funding and implementation, and
- managing for results.

**Separation of funders and doers.** This is the most basic principle of governance in the New CGIAR. It enables the responsibilities of entities to be defined more clearly than in the old CGIAR. Funders no longer engage in managerial matters, leaving them to the Consortium. The Consortium represents the CGIAR and provides a single point of entry to the system. The Fund has only the Consortium as its counterpart. As a consequence, funders as a group have no relations with individual Centers, which reverses the situation in the old CGIAR.

The separation principle ushers in a new form of relationship between the Fund and the Consortium. The informal mode of operation of the old CGIAR is replaced with formal contracts and other agreements between the Fund and the Consortium that clarify mutual obligations. Program performance agreements clearly define deliverables and provide the means of assessing research achievements.

**Harmonization.** This principle is intended to make the New CGIAR less “atomized” than the old CGIAR. Collective action is promoted among both doers and funders, with the Consortium and the Fund Council playing facilitating roles. The long-term goal is to generate culture change in both the donor community and among the Centers for the benefit of the system and its beneficiaries.

**Managing for results.** This principle introduces a shift of focus from setting priorities to guide action to formalizing agreements to generate specific results on the ground. The SRF is intended to provide the logical framework of how outputs relate to outcomes and outputs to impacts. Performance is to be planned and monitored in terms of deliverables and results. The shift from institutional funding to program funding facilitates the results-orientation of the New CGIAR, and program performance agreements provide formal accountability reinforcing the emphasis on achieving results.

In summary, all but one of the governance principles that guided the CGIAR for 4 decades have been largely abandoned in favor of principles reflecting the new institutional architecture of the CGIAR. Conceptually, there is now a sharper delineation of roles and a more formal and prescribed relationship linking donors and Centers. The first few years of implementation should tell how effectively the new principles are able to steer the system toward its strategic objectives.







## DRIVERS OF CHANGE

The CGIAR at 40

Close observers of the evolution of the CGIAR often wonder why so many attempts to change the system have been made over its 4 decades. In retrospect, it is clear that many of these attempts failed to generate the intended results. Some did succeed in generating the intended change, but that change brought unintended consequences. In other instances an idea for change was loudly welcomed but never translated into action. It would be useful to examine a few change attempts undertaken during each decade of the CGIAR's history and try to decipher the likely reasons for their success or failure.

Two simple and related conceptual models can help with this task. The first is John Kotter's seminal *Harvard Business Review* piece on leading change, in which he argues that organizational change is not an event but a process, and that unless each stage of the process is well planned and managed the transformation effort is likely to fail. Kotter's eight stages are: "(1) establish a sense of urgency; (2) form a powerful guiding coalition; (3) create a vision; (4) communicate the vision; (5) empower others to act on the vision; (6) plan for and create short-term wins; (7) consolidate improvements and produce more change; and (8) institutionalize new approaches."<sup>70</sup>

The second model is a formula for change (or change equation) created by Richard Beckhard and David Gleicher that highlights the key conditions that must exist for an organizational change initiative to succeed. It predicts organizational change initiatives will succeed only if  $D \times V \times F > R$ , where D stands for dissatisfaction with status quo, V for vision of what is possible, F for first concrete steps that can be taken to move toward realizing that vision, and R for resistance to the change. The relationship is multiplicative because all three factors must be present in quantities as high as possible for the left side of the equation to be greater than existing resistance to change.<sup>71</sup>

## Change and the CGIAR

During the CGIAR's first decade, organizational change was possible because there was a compelling vision to build a research network. A strong TAC and, in John Crawford, TAC chair provided strong leadership to build that compelling vision. The status quo of there being only few Centers was not acceptable, and by then the CGIAR was quite experienced in setting up new Centers. Several donors were willing to take responsibility for the Group as the implementing agency for establishing new Centers, as did the IDRC, Ford Foundation, Rockefeller Foundation, GTZ and World Bank. In a few cases there was some resistance (e.g., against providing support to a program of WARDA) but not strong enough to overcome the rationale put forward by TAC. The availability of funding meant its lack did not pose major resistance, at least not until the end of the decade when the system had grown from 4 to 13 Centers. That there was stable and steady leadership of the CGIAR helped maintain the drive to growth.

There was little system change, except in administrative matters, during the first half of the second decade. But the second half of the decade saw, first, an expansion of mission and focus from crop improvement and farming systems to sustainability and focus on poor people. As during the first decade, this was ably led by TAC and faced little resistance from donors or Centers because of similar trends taking place globally in development policy. The most significant organizational change that took place toward the end of the decade was the expansion of the CGIAR from 13 to 18 Centers. Here, the story was a bit different. The existing Centers were less dissatisfied with the status quo than were the donors. The donors believed that the mandate of the CGIAR had to be expanded to include research on forestry and took a preemptive decision in their meeting in Canberra in 1989 to broaden the Group's mission, without waiting for the results of the TAC study that had been commissioned. They also disagreed with the TAC recommendation to have a single forestry institute. This was a telling sign that the balance of power in the CGIAR had begun to change.

## *Positioned for Reform*

In the 1990s, four forces drove CGIAR Centers toward collective action and interdependence: (1) donors' preference for cross-Center research through systemwide and ecoregional programs; (2) a quest for the more efficient delivery of scalable corporate services such as pension investments and insurance and support for gender and diversity equity in staffing; (3) donors' desire for greater transparency and accountability across the CGIAR; and (4) the failure of some CGIAR member states to sign the 1993 Convention on Biological Diversity, which meant that CGIAR members lacked a unified position on access to the agricultural genetic resources held by Centers. To guarantee that all parties had fair access to the genetic resources they held, the Centers found they had to unite and work through the Food and Agriculture Organization toward the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture.

I became the director general of ICLARM in 1994. I was a new recruit to a Center recently admitted to the CGIAR and the first female director general. Before entering the CGIAR, ICLARM had suffered financial and governance crises. The CGIAR provided much-needed stability and guidance on technical, managerial and funding matters. The new ICLARM board included members such as John L. Dillon and Nyle Brady, who had extensive governance experience in the CGIAR. Smart inter-Center cooperation became the core of ICLARM's strategy.

In 2000, ICLARM saw that the CGIAR system needed clearer governance. ICLARM chose to call itself the WorldFish Center and positioned itself for eventual CGIAR reform. Real CGIAR change was agreed in 2008, delivering two lessons: how long reform takes and the endurance of the CGIAR's mission.

### **Meryl J. Williams**

*Director General, WorldFish Center; Executive Officer, Future Harvest Alliance Office; Board Member, International Crops Research Institute for Semi-Arid Tropics*



In the final tally the system expanded from 13 to 18 Centers. TAC's recommendations on the new Centers, other than the one on forestry, were endorsed. Applying the change formula, dissatisfaction was high on the part of donors but not of Centers; vision was primarily donor-driven, strengthened by TAC's rigorous analysis; the first steps were immediately taken by bringing into the system four existing institutes (ICLARM, IIMI, ICRAF and INIBAP) and by commissioning the Australian Centre for International Agricultural Research to serve as implementing agency to establish CIFOR as the fifth Center. Resistance from Centers was not strong enough to overcome the momentum that existed in the Group. However, a careful and realistic analysis of the financial consequences of expansion was lacking. Had there been one, it would have been clear that adding new Centers would not bring in new funding in proportion to the system's expansion.

As a result, the third decade started with a financial crisis. Dissatisfaction was high in all quarters. The vision was to live within means, and the obvious first steps were to contract the system by reducing the number of Centers. The lowest hanging fruits were the smallest new Center (INIBAP, which was actually a network) and two livestock Centers, which had been experiencing funding problems for some time. This change was more cosmetic than substantive as the programs of the merged Centers continued with little change. Only the number of administrative units under the CGIAR umbrella was reduced.

The middle of the decade witnessed another reform initiative, which was dubbed "renewal," during Serageldin's chairmanship. This was renewal in that it aimed to renew the donor community's commitment to the CGIAR on the heels of an expansion and financial crisis. The reforms undertaken were mostly in the business processes of the CGIAR: a simpler mission statement, new research agenda and budgeting process, and new impact assessment function. Perhaps the most significant change Serageldin initiated was opening up the system by initiating GFAR and bringing the voice of civil society and the private sector to the CGIAR forum. Here, the vision was the chair's and it was widely shared, as there was broad recognition that concrete steps were needed toward strengthening partnerships with other organizations. The first steps — establishing committees — were easy, but it was not clear that system-level committees would be able to generate behavioral change at the Center level.

A second significant change introduced under Serageldin was the clarification of CGIAR policies on genetic resources, intellectual property rights and biotechnology. The mechanisms that were established, such as the Genetic Resources Policy Committee and several Center-level groups, served the CGIAR well over the years and enabled the system to stay abreast of the fast-paced developments in the public and private sectors.

There were two major organizational change efforts during the fourth decade, one at the beginning and the other at the end. Both were started following a change in CGIAR leadership. The first, led by Ian Johnson and Francisco Reifschneider, was based on the recommendations of a change design and management team and initiated a shift toward a programmatic approach to funding research through CPs and more centralized decision-making by the Group through ExCo, which the CGIAR had always rejected in earlier attempts. Other reforms affected mainly business processes.

In terms of the change formula, Centers and donors alike felt unease and dissatisfaction over the system before the reforms. The third system review had not brought workable solutions to the stagnation felt in the system. Over time, the system's mission had been expanded with each new dimension, such as public health and climate change, added to a research agenda that was already crowded. Unrestricted funding was declining, as was the outlook for ODA. As for vision, donors and Centers agreed that the CGIAR needed to "elevate its game" for greater global impact and streamline its decision-making and operations to generate efficiency. Some of the agreed steps were relatively easy, such as reducing the number of CGIAR meetings from two to one per year, establishing the virtual System Office and transforming TAC into the SC, but there was resistance on two key initiatives.

In the case of establishing ExCo, the original proposal for a “shareholder committee” was modified to a “stakeholder committee” in response to strong resistance from Centers and external stakeholders. The proposal to move toward a programmatic approach through CPs faced strong resistance from Centers. To make change workable, programs were initiated on a trial basis and using only proposals submitted by Centers. While the original vision was to deliver half of the CGIAR research agenda through CPs within 5 years, the system was able to initiate in this period only four CPs, which pursued only a small share of the total research agenda.

Thus, the first change effort of the decade failed to generate the intended shift toward a programmatic approach to research. But it provided a useful learning experience for the next reform of the decade in terms of the design and management of global programs. Most of the other organizational changes helped improve business processes, but two yielded mixed results. The virtual System Office facilitated little true integration of effort among units, though it helped improve communication. Similarly, the transformation of TAC into the SC appeared more like a cosmetic change, especially as the new council had difficulty implementing its new role to mobilize science globally for the benefit of the CGIAR system and its stakeholders.

In terms of process, the most recent reform, which yielded the New CGIAR, is a textbook case of change management. Centers were dissatisfied because a great and growing majority of their funding was restricted. Donors were dissatisfied because, partly as a result of further increases in restricted funding, the system’s resource base was not aligned with the agreed priorities and there were similar mismatches between Center activities and regional priorities. Instead of having a small team identify the issues and generate solutions, the chair, Kathy Sierra, decided to take an inclusive approach and engage all major actors and stakeholders in designing the change process. She both established a sense of urgency, as in Kotter’s model, and formed a powerful guiding coalition to lead the process. This meant that there would be greater buy-in in the vision emerging from the process. The agreed changes were revolutionary by CGIAR standards, leaving all previous reform initiatives pale by comparison. A major communication effort was needed to sell the new vision and reform. This is where actions fell short, as the reforms were not fully understood by rank-and-file staff at Centers, at least not enough to generate changes in their mindsets. Quick steps were taken to change system structures: The old CGIAR was extinguished at the end of 2009, and the new CGIAR began to operate in 2010 with a meeting of the new Fund Council early in the year. Other pieces of new architecture, both legal and organizational, were put in place over time. Donors’ commitment to reform was strong, as evidenced by the funding they provided to the entire change effort. Reform became concrete when the first two CRPs were approved and funding began to flow to them.

Thus, in terms of its success in generating organizational change at the system level, the most recent initiative, which established the New CGIAR, scores the highest marks among all change efforts to date. The change process followed well-tested norms, and the resulting new structures are mostly in place. As change alone does not guarantee the generation of intended outcomes, it is too early to tell whether the reforms will be effective in terms of delivering results on the ground.

## Why Some Reforms Did Not Work

The template used above to analyze the major change efforts undertaken in the CGIAR can provide clues why some reform attempts did not work. Some were too early or radical for the system to digest by building a strong guiding coalition around them, and some encountered stiff resistance from some or all Centers or donors. Three examples illustrate these points.

**Shift to a programmatic approach.** This was first recommended by the Conway Panel in 1994. Other priorities faced by the system during the financial crisis, prevented its serious consideration at the time. The idea was advocated again by the change design and management team



in 2001 and found its initial implementation through the CPs but with limited scope. Finally, the New CGIAR adopted it as a cornerstone of reform, and a more radical shift to program funding took place.

**Consolidation of Centers.** This has been seen as a “quick fix” in the CGIAR every time the system faced financial difficulty. Except for the ILCA-ILRAD and IPGRI-INIBAP mergers, and IFPRI’s absorption of the surviving remnants of ISNAR, no Center consolidation took place. Two key reasons were resistance from Centers and their supporters, as no Center wanted to be merged with another, and the absence of a single compelling strategic rationale or vision acceptable to most stakeholders. Each Center had grown strong over time and had its diehard support group within the CGIAR. Under consensus decision-making, it was close to impossible for the CGIAR to advance a proposal on a merger against stiff resistance. There had to be a do-or-die rationale for consolidation before Centers or donors would seriously consider it. At one such occasion in 1993, when the system faced a serious financial crisis and TAC was asked to develop a consolidation plan, it was set aside at the request of the incoming chair. Twelve years later CGIAR task forces examining CGIAR operations in sub-Saharan Africa recommended consolidating all Centers in Africa into single corporate entity. While the recommendation was endorsed “in principle,” it was not clear how the system would be configured in each region, discomfiting donors and Centers, and no action was taken.

**One or two Centers for Africa.** The history of the debates on the CGIAR’s architecture in sub-Saharan Africa presents a similar picture. For years, African regional and subregional agricultural research organizations argued that they did not have the capacity individually to interface



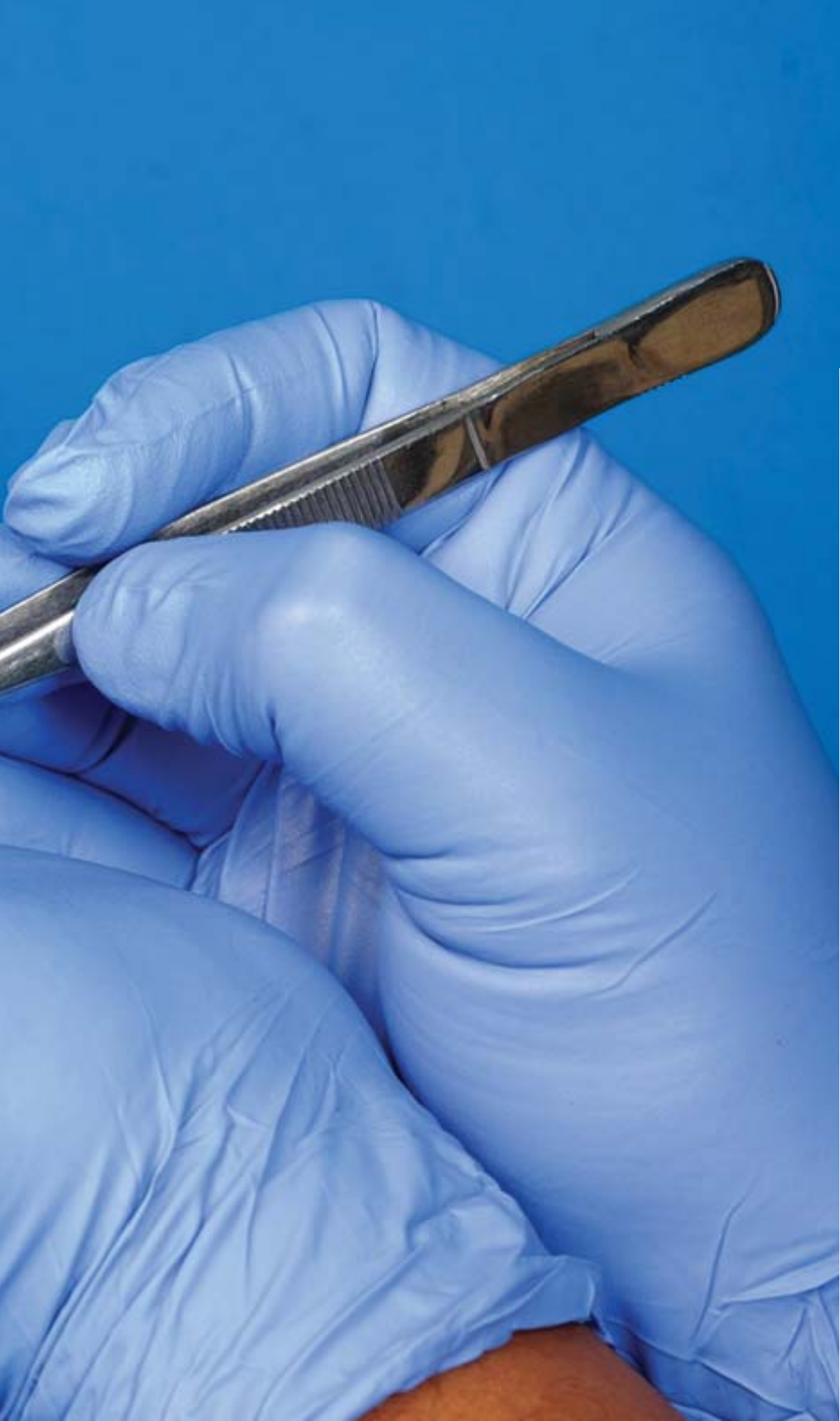


separately with 16 (later 15) Centers and that it would be more efficient for them and for the Centers if they were able to interface with only one or two CGIAR entities. While the idea made a lot of sense to the CGIAR community, there were no obvious first steps to make it happen. As each Center operated in several regions, their global architecture was an issue that could not be isolated in Africa but, rather, involved all regions. Finally, SSA task forces recommended a first step: have one CGIAR entity in East and Southern Africa and a second entity in West and Central Africa. As a first step, the Centers headquartered in West and Central Africa would form the nucleus of one of the entities by operating under one board. A similar arrangement would cover East and Southern Africa. Stiff resistance from the four Centers involved, and from the others operating in SSA, saw the recommendation and its eventual implementation diluted to aligning administrative services and other things that the Centers were comfortable with or already doing.

Thus, the CGIAR's endorsement of a recommended action did not always mean that it would be implemented. The endorsement provided a green light to proceed, but full implementation required that there be little resistance within the system; a powerful guiding coalition stand behind the recommendation, especially financially; and everyone involved clearly understand not only the first steps but also what would follow. Because the Centers equated CGIAR contributions with the unrestricted funding they received, over time the CGIAR lost its persuasive power (i.e., power of the purse) when unrestricted funding dropped to one-third or less of Centers' overall funding.







The 40-year experience of the CGIAR in mobilizing the donor and scientific communities around a common development objective has presented a number of lessons for both communities. As illustrated above, the CGIAR system has had its ups and downs in coping with challenges. Despite the hurdles, however, it has continued to generate expanding benefits for food production, environmental sustainability and capacity building in developing countries. This is because the founders of the CGIAR believed in leaving the management of science to scientists by establishing autonomously governed Centers rather than a top-down corporate structure. Many of the lessons that emerge from the CGIAR experience relate to this basic founding principle and how it has created tensions with other valued objectives.

## Organizational Lessons

Perhaps the biggest organizational challenge the CGIAR faced over the years was how to find the right balance between differentiation and integration. Work supported by the CGIAR was differentiated among autonomous Centers. Yet the Group's intention was that the work done in all Centers would be mutually reinforcing and contribute to a common goal. This required creating mechanisms that would facilitate integrating the efforts of all Centers. A fully differentiated system would mean parceling the CGIAR's work out to separate units and leaving each unit alone to do its work. A fully integrated system would mean each unit working in concert with the other units.

The donor community was interested in an integrated system, as were most of partner institutions in developing countries. This was partly because of the desire to create a whole that was greater than the sum of its parts by generating economies of scale in aspects of science common to the Centers and by getting Centers working in the same regions and countries to interact more. The CGIAR responded with several mechanisms to facilitate integration among the Centers and operate more like an integrated system:

- **Priority setting.** At the system level this was done centrally with the expectation that each Center's strategies should dovetail with system goal and priorities.
- **Operational plans of Centers.** These medium-term plans were reviewed annually by TAC and later the SC to assess their alignment with system priorities, for eventual Group endorsement — meaning the issuance of a green light to have the donors finance the proposed programs.
- **External reviews of Centers.** Conducted every 5 years, these reviews assessed, among other things, alignment with system priorities and programmatic linkages with other Centers.
- **Systemwide and ecoregional programs.** These were created to facilitate the integration of Center activities where scientific collaboration was most needed.
- **Communities of practice.** Scientists and administrators formed communities in their respective areas of practice to learn from one another and help improve communication and coordination.
- **Inter-Center committees.** The CDC, CBC and Committee of Center Deputy Directors General addressed common concerns and strove to align Center policies.
- **Centralized program and administrative support.** Mechanisms were created to facilitate Center operations in such areas as gender and diversity, human resources, intellectual property, information technology and knowledge management, and internal audit, as well as help harmonize Centers' internal policy frameworks.

Thus, Centers' freedom to operate was constrained by forces promoting greater integration. Although it was not designed as a corporation, the CGIAR tried to operate as if it were a corporation. Integrating mechanisms proliferated over time and as the system's mission became more and more complex. Clearly, each new mechanism had a cost in terms of implementation and of the burden it imposed on each Center. Naturally, there were benefits to Centers and the system as well.



No careful analysis ever studied the impact on system productivity brought about by the cumulative effect of mechanisms of integration. However, judging from the reactions of the Centers to the burdens imposed on them by the CGIAR, particularly during the past decade, adding more integrative mechanisms to generate a greater system orientation might have been counterproductive.

## Lessons on Structure

An obvious answer to the dilemma of differentiation versus integration is to minimize differentiation by reducing the number of Centers. As discussed in the section *Drivers of Change*, Center consolidation was attempted several times but rarely achieved.

Observers of the CGIAR often ask if it would have the same structure if it were created today. The answer is a clear no because the architecture of the CGIAR evolved, rather than being etched on a clean slate. It started on a simple commodity axis with IRRI and CIMMYT, then added a second, region axis with CIAT and IITA. While these two axes accommodated some of the Centers that came next — CIP, ICRISAT, ICARDA, ILCA, ILRAD and WARDA — a third axis, service, was added with ISNAR and IBPGR; a fourth axis, policy, with IFPRI; and a fifth axis, natural resources, with IIMI and CIFOR (the other Centers added — ICRAF, INIBAP and ICLARM — fit one or another existing axis).

An organizing framework with so many axes lies at the heart of the CGIAR's difficulties in coming up with an optimal structure. Each of the five axes intersected with all other four axes because most of the Centers had global mandates. For example, having a policy Center did not mean that none of the other Centers would address policy issues, and having ICRISAT working in the semi-arid tropics did not mean that no other Center could work on commodity, natural resource, service, or policy concerns in that environment. Some overlap in Centers' mandates was thus inevitable, which required clarification and self-directed mutual adjustment among Centers. In a few clear-cut cases, such as CIMMYT versus ICARDA in wheat research in Central and West Asia & North Africa and CIMMYT versus IITA in maize research in sub-Saharan Africa, TAC helped clarify Centers' respective responsibilities.

Any reorganization of Centers required, first, agreement on the axes upon which the new structure would be based — preferably not more than two, such as (1) commodity or subject matter and (2) region. Second, agreement would be needed on how to configure each axis, such as on which commodities or commodity groups. Third, if there were two axes, clarification would be required on how the two axes would interact, regarding, for example, the relationship between a commodity center and a regional center and their respective responsibilities. Throughout the CGIAR's history, many scenarios were developed on possible structural reconfiguration using this rationale, but none found traction because the forces favoring the status quo were stronger than those favoring any one scenario.

## Lessons on Funding

Center autonomy meant that each Center was responsible for its research outputs and impact and for raising the funds needed to conduct the required research. As the donors, or sources for funding, were finite and known to all, there was intense and sometimes fierce competition among Centers for donors' funds. The uncertainties arising from this competition were exacerbated by Centers each having to run long-term research programs with annual funding because that matched the budget cycle of most development assistance agencies. This placed enormous burdens on Center management and boards. Thus, when demands from the CGIAR for greater integration among the Centers increased, compliance with the requests became difficult in the absence of new and additional incentives. In other words, acceding to demand for integration meant each Center giving up some of its sovereignty, which seemed unreasonable if each Center was expected to raise its own funds.







One possible answer could have been to create a system fund to finance all such integrative initiatives, supported by strong, system-level fundraising capability. In fact, the financing model of the New CGIAR does exactly this. Each CRP is integrative, bringing together inputs from all components of the Center system. The CGIAR Fund is designed primarily to finance this type of activity. Each Center gives up some sovereignty when contributing to a CRP in return for external funding for that activity. The autonomy of the Centers, especially in managing their science, is not otherwise threatened. To the extent that they are able to raise sufficient funds from bilateral sources to carry out other research within their areas of responsibility, they are likely to remain viable and sustain their relevance for many years.

## Lessons on Accountability

The CGIAR has a strong tradition of accountability. The system's original model of decentralized management and centralized oversight required balancing Center autonomy with appropriate means of system oversight. Initially, oversight was primarily through TAC, which bore the responsibility to "advise the Consultative Group on the effectiveness of specific existing international research programs."<sup>72</sup> TAC carried this out primarily through reviews of Center budget proposals and external program reviews. Added in 1983 to these quinquennial reviews of each Center were external management reviews commissioned by the CGIAR Secretariat. In 1991, the two were merged into a single EPMR, which was quite comprehensive, carried out by a panel of 5-7 experts and costing the CGIAR \$200,000-\$300,000. In addition, TAC carried out from time to time stripe reviews of activities that cut across all or most Centers, such as on plant breeding or research on farming systems or social science subjects.

A key reason for centrally managed EPMRs was to avoid each donor conducting its own review of the Centers it supported. While this worked for most donors, particularly those providing unrestricted funding, donors funding specific projects normally required separate evaluations to satisfy their own regulations.

Review activities proliferated over time. Centers began to commission their own external reviews linked with EPMRs. The initiation of CPs required an EPMR system for them parallel to that of Centers. In finance, the internal audit function strengthened over time, providing more robust audit data to Center boards and management. And, during the final decade of the old CGIAR, the comprehensive Performance Measurement System was introduced, imposing substantial data-gathering and reporting demands on Centers.

In short, Centers and their actions were increasingly placed under a microscope. Several attempts to streamline the systems of accountability met little success. Each new mechanism reinforcing accountability generated new data on performance, which many donors welcomed. As each evaluation required the time of Center scientists, the Centers began to question the required tradeoffs, especially as unrestricted funding from CGIAR donors dropped to about 30% of all funding, and despite donors of restricted funding benefiting from CGIAR evaluations as well as from their own.

Thus, the key lesson on accountability from CGIAR experience is that each new evaluation activity should be assessed in terms of the added value of the information it would generate and weighed against the value of the research output that would be foregone.

## Lessons on Advisory Bodies

As the CGIAR's main business was science, and as a great majority of donor agency representatives were not scientists, making decisions in the CGIAR forum required analysis and advice

from a technically authoritative body. TAC was established at the same time as the CGIAR itself to help guide decision-making in the Group for many years.

But TAC was not just an advisory body; it also provided scientific oversight on behalf of the Group. When the TAC chair spoke, the Group and the Centers listened carefully. This was because the original TAC and a few others over the years earned the respect of the CGIAR community by virtue of the personal stature of their members, and because TAC's recommendations were backed with commensurate funding allocations by a few donors, not counting the supportive practice of the World Bank as the donor of last resort. During the CGIAR's initial 2 decades, TAC was thus able to provide strong leadership to the system.

Notwithstanding the individuals who chaired it, the leadership role played by TAC and its successor SC was not the same during the past 2 decades, in part because donors and Centers began to be heard more strongly and Centers were not as ready or willing to work within collective system priorities — the latter reason a consequence of new financing arrangements that no longer backed TAC recommendations. It could be argued that a strong technical advisory body was needed more during the formative years of the CGIAR than in later years when the need for technical advice may have ebbed as the system matured and Centers began to work better collectively toward addressing their common strategic concerns. Nevertheless, it is clear from the CGIAR experience that technical advice is heeded more when it is coupled with a commensurate incentive mechanism.

## Lessons on Corporate Governance

From the beginning, Centers have been primarily led by their director. The situation has not changed much over the years or across Centers. What has changed is the role played by Center boards.

The initial Center boards saw themselves more as advisors to the director than as policy- and decision-making bodies overseeing Center operations and the director. It took over 10 years for the system to clarify boards' roles, responsibilities and accountability. This was not unusual because best practice in the governance of nonprofit organizations was not then systematically codified even in advanced countries. The CGIAR system closely followed developments in thinking on corporate and nonprofit governance. A series of orientation programs was conducted for new board members, boards shared best practice among themselves through the CBC, a set of guidelines for CGIAR boards was prepared to reflect best practice, and each Center board took steps to improve its functioning. As a result, CGIAR Center boards gradually transformed themselves from advisory bodies into governing boards with full fiduciary and other responsibilities appropriate for autonomous institutions.

Corporate governance reform is part and parcel of several transformations that have taken place in the CGIAR over 4 decades. It reflects the maturity of the Centers as institutions following the best internationally recognized practice in governance, finance and management.

## Unique Strengths

The old saying “life begins at 40” comes to my mind when, at that age, a reformed CGIAR enters a new era. The CGIAR can look back at great achievements and step into the future well equipped for the grand challenges ahead in relation to poverty, food, climate change, energy and finances. The CGIAR is needed more than ever to create a better future for the world’s poor and, at the same time, care for the environment and mitigate the impact of climate change on production and people.

The CGIAR has many unique strengths, and I would like to underline a few. First, its focus on the global public good, and on securing for the global South access to knowledge and technology, are of crucial importance in a world where others tend to privatize the results of research. Second is the CGIAR’s collective action and partnership mode of operation, in which a range of actors joins forces to contribute to making a difference through research and development. Third, the success of the CGIAR depends totally on motivated researchers with brilliant and inquisitive minds going all out to perform relevant, cutting-edge science.

The drivers of change in food and agriculture are many and will affect the CGIAR’s future path and direction. What is apparent is that international willingness to fund the CGIAR in the next 40 years will depend upon the CGIAR’s providing convincing impact pathways and proven results related to its system-level objectives, as well as on its ability to respond effectively to a changing world.

### **Ruth Haug**

*Representative of Norway to the CGIAR; Member, CGIAR Oversight Committee; Member, CGIAR Executive Council*





## CONCLUSIONS

The CGIAR at 40

In terms of value for money, the CGIAR has been one of the best investments for international development over the past 40 years. Over this period the donor community invested close to \$11 billion in research through the CGIAR. This is equal to the annual economic benefit of CGIAR research on just rice on only one continent, Asia.<sup>73</sup> A study in 2003 considered how the world would look today without CGIAR research, and eliminating CGIAR work on crop improvement alone has developing countries producing 7-8% less food and 13-15 million more children malnourished.<sup>74</sup>

Investment in the CGIAR reflected the confidence that the donor community had on the potential of scientific research to address issues of food security and environmental sustainability in developing countries. It was also a bet on the potential of an innovative institutional model. At the core of this institutional experiment was the belief that science should be left to scientists, and scientists left as little encumbered as possible. Research institutes were set up as autonomous, self-governing entities — the only legal bodies in the system. The donor group maintained itself as a loose informal assembly, advised by TAC and granting each donor the freedom to allocate its resources to Centers and their programs as they pleased.

This model worked well when the Group was small and the number of Centers was relatively small at 13. Centers were able to plan and conduct their research as they pleased because a significant share of their resources were unrestricted, and Centers heeded TAC's advice because of the incentive structure reinforcing that advice. The model began to show strains as the Group grew, requiring new committees and other measures to facilitate decision-making. At the same time, the number of Centers increased and the mission of the system became increasingly complex, requiring new measures to ensure the integration of Center activities. Finally, the reversal over time of the 70:30 ratio between unrestricted and restricted funding gradually eroded the authority of the Group and TAC, which had depended to a large extent on the power of the purse.

The system attempted reform several times over the past 2 decades. Practically all reforms were evolutionary, adjusting one aspect or another of the existing institutional model but not abandoning it in favor of another model. When some revolutionary suggestion was made,



such as the recommendation arising from the third system review to adopt a corporate model with a board and CEO overseeing the entire system and Centers as its operating units, pressure from within the system induced the Group to dismiss it.

The New CGIAR presents a much-needed revolutionary change in the CGIAR. It is too early to tell whether or not this new model will succeed. Perhaps its most positive aspect is that, like the founders of the original CGIAR, it maintains protecting the independence of the scientist as a core principle and stiffens the new programmatic thrust on the backbone of the scientific network that has evolved over 40 years. These are the most valuable global assets that have been built and nurtured under the CGIAR umbrella over the past 4 decades.

The New CGIAR model faces a number of serious challenges. First among them is perhaps uncertainty about how donors will respond to harmonization. If contributions to the unrestricted windows 1 and 2 of the CGIAR Fund remain low, the system could continue to experience the same ills as it did under the old CGIAR when the ratio of unrestricted to restricted funding fell to 30:70. Another hurdle is the bureaucratization and formalism that will undoubtedly accompany the new form of results-based contractual relationships for CRPs between the Fund and the Consortium, the Consortium and the lead Center, and the lead Center and its partnering institutions. A third unknown is how the relationship between the Consortium and the Centers will evolve over time, especially regarding oversight and accountability. This is a new institutional experiment, in which the Consortium reports to the Centers, as it is their creation, while it controls the flow of funds from the CGIAR Fund to the Centers, and thus has some limited authority over the Centers.

The story of the CGIAR's evolution over the past 40 years reflects evolution in thinking on international development, as well as evolution in science, science management and partnerships. The legacy of the CGIAR is as much in the impacts of the research it financed as it is on the scientific institutions and networks it has created. These are robust global, regional and national assets that have the potential to serve the global community for many years to come.











# ANNEXES

The CGIAR at 40

# ANNEX 1

## CGIAR's Evolution in Figures

FIGURE 1.1. CGIAR FUNDING AND NUMBER OF MEMBERS BY DECADE

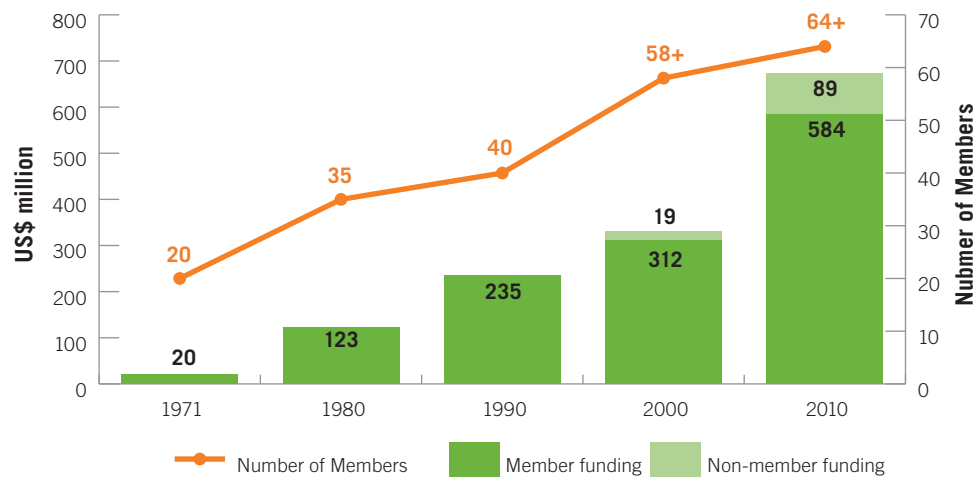


FIGURE 1.2. CGIAR TOTAL FUNDING TRENDS

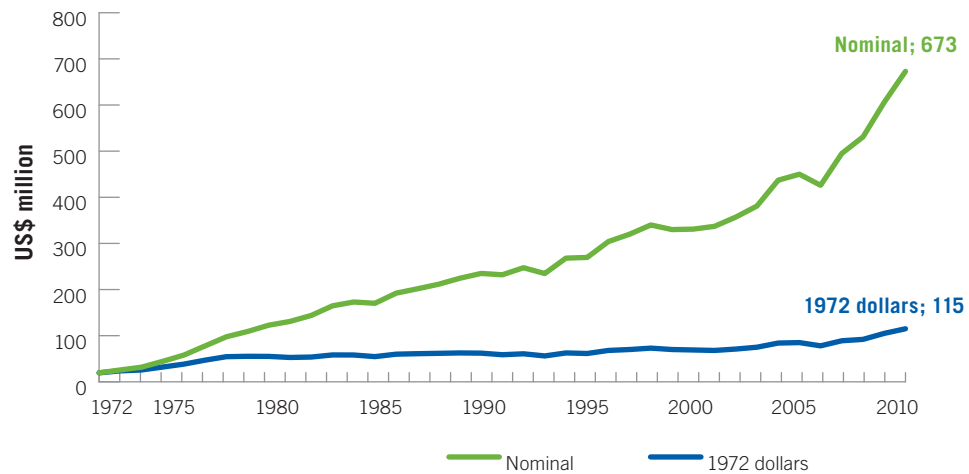


FIGURE 1.3. EVOLUTION OF THE NUMBER OF CGIAR CENTERS BY DECADE

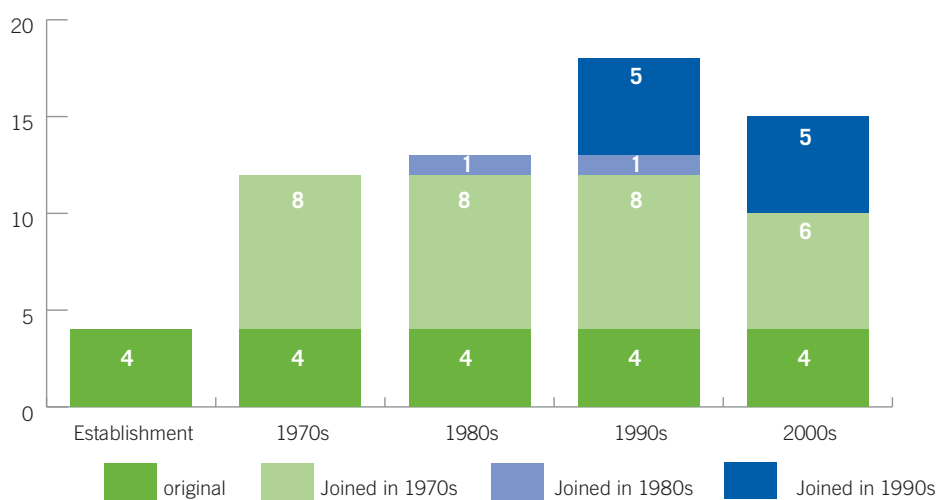


FIGURE 1.5. CGIAR'S EVOLVING RESEARCH AGENDA



FIGURE 1.4. PROFILES OF CGIAR CENTERS

CENTER	HEADQUARTERS	YEAR ESTABLISHED	YEAR JOINED THE CGIAR	2010 FUNDING (\$ MILLION)	MANDATE
<b>COMMODITY CENTERS</b>					
Africa Rice Center <sup>a</sup>	Cotonou, Benin	1970	1975	22.3	Rice production in West Africa
International Maize and Wheat Improvement Center (CIMMYT)	Mexico City, Mexico	1966	1971	58.8	Wheat, maize, triticale
International Potato Center (CIP)	Lima, Peru	1970	1973	33.5	Potato, sweet potato
International Livestock Research Institute (ILRI)	Nairobi, Kenya	1995 <sup>b</sup>	1995	41.1	Livestock disease, cattle, sheep, goats, feed and production systems
International Rice Research Institute (IRRI)	Los Baños, Philippines	1960	1971	56.7	Rice and rice-based ecosystems
<b>ECOREGIONAL CENTERS</b>					
International Center for Tropical Agriculture (CIAT)	Cali, Colombia	1967	1971	56.1	Bean, cassava, tropical forage, rice, hillsides, forest margins, savannas
International Center for Agricultural Research in the Dry Areas (ICARDA)	Aleppo, Syria	1975	1975	38.7	Barley, lentil, fava bean, durum and bread wheat, chickpea, pasture and forage legumes, small ruminants, on-farm water management, rangeland
International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	Patancheru, India	1972	1972	59.9	Sorghum, pearl millet, finger millet, chickpea, pigeon pea, groundnut, sustainable production systems for the semi-arid tropics
International Institute of Tropical Agriculture (IITA)	Ibadan, Nigeria	1967	1971	51.4	Soybean, maize, cassava, cowpea, banana, plantain, yams, sustainable production systems for the humid lowland tropics
<b>NATURAL RESOURCE MANAGEMENT CENTERS</b>					
Center for International Forestry Research (CIFOR)	Bogor, Indonesia	1993	1993	27.0	Sustainable forestry management
International Water Management Institute (IWMI) <sup>c</sup>	Colombo, Sri Lanka	1984	1991	30.2	Irrigation and water resource management
World Agroforestry Centre <sup>d</sup>	Nairobi, Kenya	1977	1991	40.0	Agroforestry, multipurpose trees
WorldFish Center <sup>e</sup>	Penang, Malaysia	1977	1992	17.2	Sustainable aquatic resource management
<b>POLICY CENTERS</b>					
Bioversity International <sup>f</sup>	Rome, Italy	1974	1974	39.5	Plant genetic resources of crops and forages, collection and gene pool conservation
International Food Policy Research Institute (IFPRI)	Washington, DC, United States	1974	1980	70.9	Socioeconomic research related to agricultural development

<sup>a</sup> Formerly the West Africa Rice Development Association (WARDA).

<sup>b</sup> Created in 1995 through the merger of the International Laboratory for Research on Animal Diseases (ILRAD, established in 1973) and the International Livestock Center for Africa (ILCA, established in 1974).

<sup>c</sup> Formerly the International Irrigation Management Institute (IIMI).

<sup>d</sup> Formerly the International Centre for Research on Agroforestry (ICRAF).

<sup>e</sup> Formerly the International Center for Living Aquatic Resources Management (ICLARM).

<sup>f</sup> Formerly the International Board on Plant Genetic Resources (IBPGR) and then the International Plant Genetic Resources Institute (IPGRI).

FIGURE 1.6. CHANGES IN THE COMPOSITION OF CGIAR FUNDING, 1988-2010

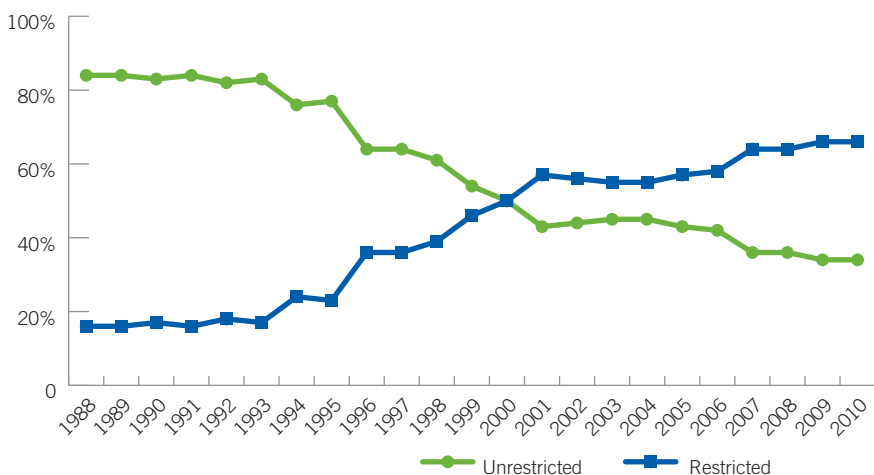
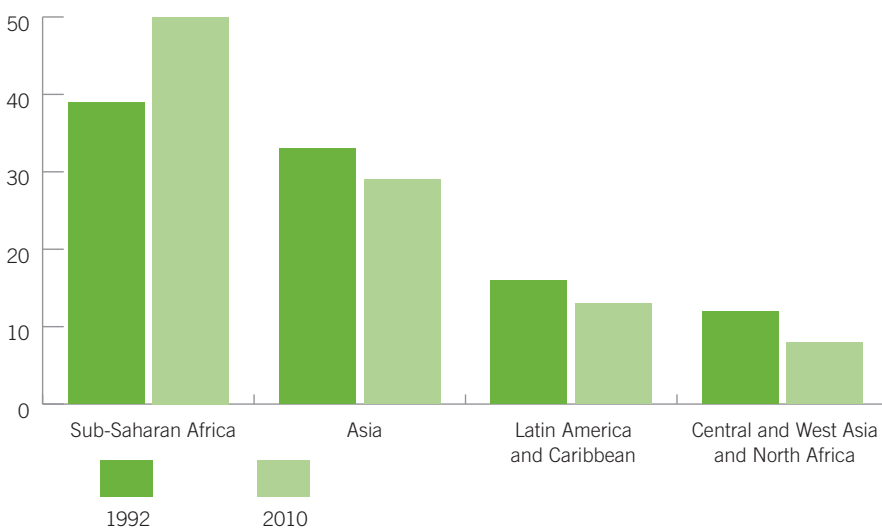


FIGURE 1.7. CHANGES IN THE DISTRIBUTION OF CGIAR INVESTMENTS BY REGION, 1992 AND 2010



**FIGURE 1.8. TOP 10 DONORS TO THE CGIAR BY DECADE**  
(nominal \$ million)

	1971-1980		1981-1990		1991-2000		2001-2010	
1	United States	134.7	United States	428.8	World Bank	437.5	United States	608.2
2	World Bank	54.9	World Bank	258.3	United States	389.4	World Bank	494.9
3	Canada	46.2	Japan	144.1	Japan	333.4	United Kingdom	374.5
4	Germany	44.0	Canada	111.5	European Commission	166.1	European Commission	315.3
5	IDB	36.0	IDB	92.5	Switzerland	158.6	Canada	286.8
6	United Kingdom	30.5	Germany	88.6	Germany	145.6	Bill & Melinda Gates Foundation <sup>1</sup>	218.7
7	UNDP	23.9	United Kingdom	82.9	Canada	139.6	Switzerland	180.2
8	Rockefeller Foundation	22.8	European Commission	78.2	Netherlands	117.0	Netherlands	172.0
9	Ford Foundation	21.6	UNDP	73.8	United Kingdom	112.9	Germany	160.5
10	Japan	20.3	Switzerland	65.4	Denmark	110.1	Japan	149.3

IDB = Inter-American Development Bank, UNDP = United Nations Development Programme.  
1 Began contributing in 2004.

**FIGURE 1.9. STAFF SIZE BY CENTER, 2006-2010**

	2006		2007		2008		2009		2010	
	International	Other	International	Other	International	Other	International	Other	International	Other
AfricaRice	49	151	45	197	47	237	56	249	58	270
Bioversity	69	179	71	187	71	187	70	180	60	156
CIAT	96	640	87	683	82	645	92	643	95	692
CIFOR	41	137	37	132	43	138	40	131	52	131
CIMMYT	83	437	72	534	77	521	85	521	101	542
CIP	60	493	59	473	59	456	64	483	62	520
ICARDA	104	397	95	413	93	426	93	432	91	515
ICRISAT	59	873	59	1,015	64	1,099	73	1,031	82	1,108
IFPRI	89	121	107	114	107	125	118	228	132	245
IITA	107	1,128	111	1,007	103	968	97	882	100	857
ILRI	81	693	92	680	83	617	110	573	102	546
IRRI	73	832	74	831	149	827	134	921	131	998
IWMI	115	259	95	235	86	178	91	174	97	185
World Agroforestry	45	421	49	235	50	259	72	259	78	307
WorldFish	44	278	43	250	49	221	43	215	37	209
<b>Total</b>	<b>1,115</b>	<b>7,039</b>	<b>1,096</b>	<b>6,986</b>	<b>1,163</b>	<b>6,904</b>	<b>1,238</b>	<b>6,922</b>	<b>1,278</b>	<b>7,281</b>



FIGURE 1.10. CGIAR EXPENDITURE BY CENTER AND OBJECT, 1972-2010<sup>1</sup>  
(\$ million)

	1972-2006		2007		2008		2009		2010		TOTAL	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
<b>CENTER</b>												
AfricaRice	233	3%	10	2%	11	2%	20	3%	20	3%	295	3%
Bioversity	411	5%	38	8%	38	8%	36	6%	39	6%	561	5%
CIAT	894	10%	49	10%	47	9%	47	8%	56	9%	1,093	10%
CIFOR	160	2%	17	3%	21	4%	23	4%	25	4%	245	2%
CIMMYT	932	11%	44	9%	42	8%	44	8%	56	9%	1,118	11%
CIP	537	6%	26	5%	28	5%	32	5%	33	5%	655	6%
ICARDA	632	7%	27	6%	32	6%	33	6%	38	6%	762	7%
ICRISAT	811	9%	38	8%	48	9%	50	9%	61	10%	1,008	9%
IFPRI	418	5%	46	9%	48	9%	58	10%	67	11%	637	5%
IITA	993	11%	45	9%	51	10%	51	9%	52	8%	1,192	11%
ILRI	813	9%	41	8%	43	8%	57	10%	43	7%	997	9%
IRRI	984	11%	38	8%	41	8%	50	9%	57	9%	1,171	11%
ISNAR <sup>2</sup>	193	2%									193	2%
IWMI	205	2%	24	5%	25	5%	26	4%	27	4%	307	3%
World Agroforestry	325	4%	30	6%	28	5%	35	6%	37	6%	455	4%
WorldFish	163	2%	17	4%	21	4%	18	3%	16	3%	235	2%
<b>Total</b>	<b>8,704</b>	<b>100%</b>	<b>489</b>	<b>100%</b>	<b>524</b>	<b>100%</b>	<b>580</b>	<b>100%</b>	<b>627</b>	<b>100%</b>	<b>10,924</b>	<b>100%</b>
<b>OBJECT</b>												
Personnel	4,445	51%	217	44%	229	44%	245	42%	268	43%	5,403	50%
Supplies & services	2,788	32%	145	30%	151	29%	156	27%	174	27%	3,413	32%
Collaboration & partnerships	236	3%	74	15%	86	16%	105	18%	112	18%	614	4%
Travel	615	7%	36	7%	40	8%	41	7%	48	8%	781	7%
Depreciation	620	6%	17	4%	18	3%	33	6%	25	4%	713	7%
<b>Total</b>	<b>8,704</b>	<b>100%</b>	<b>489</b>	<b>100%</b>	<b>524</b>	<b>100%</b>	<b>580</b>	<b>100%</b>	<b>627</b>	<b>100%</b>	<b>10,924</b>	<b>100%</b>

<sup>1</sup> This data is aggregated at the Center level.

<sup>2</sup> The International Service for National Agricultural Research (ISNAR) was subsumed in part under IFPRI after 2004.

## ANNEX 2

## Who's Who in the CGIAR, 1971-2011

**CGIAR Fund Council Chairs, 2010-**

Rachel Kyte, 2011-  
Inger Andersen, 2010-2011  
Katherine Sierra, 2010

**CGIAR Chairs, 1971-2009**

Katherine Sierra, 2006-2009  
Ian Johnson, 2000-2006  
Ismail Serageldin, 1994-2000  
V. Rajagopalan, 1991-1993  
Wilfried Thalwitz, 1990-1991  
W. David Hopper, 1987-1990  
S. Shahid Hussain, 1984-1987  
Warren Baum, 1974-1983  
Richard H. Demuth, 1971-1974

**Executive Secretary of the CGIAR Fund Council and Head of the Fund Office 2010-**

Jonathan Wadsworth, 2011-  
Ren Wang, 2010

**CGIAR Directors, 2001-2009**

Ren Wang, 2007-2009  
Francisco J.B. Reifschneider, 2001-2007

**CGIAR Executive Secretaries, 1972-2001**

Alexander von der Osten, 1989-2001  
Curtis Farrar, 1982-1989  
Michael Lejeune, 1975-1982  
Harold Graves, 1972-1975

**Independent Science and Partnership Council Chair, 2010-**

Kenneth Cassman, 2011-  
Roelof (Rudy) Rabbinge, 2010

**Independent Science and Partnership Council Executive Director, 2010-**

Peter Gardiner, 2010-

**Science Council Chairs, 2004-2009**

Roelof (Rudy) Rabbinge, 2007-2009  
Per Pinstруп-Andersen, 2004-2006

**Science Council Executive Director, 2004-2009**

Ruben Echeverria, 2004-2009

**Interim Science Council Chair, 2002-2003**

Emil Q. Javier, 2002-2003

**Technical Advisory Committee Chairs, 1971-2001**

Emil Q. Javier, 2000-2001  
Donald Winkelmann, 1994-1999  
Alex McCalla, 1988-1994  
Guy Camus, 1982-1987  
Ralph Cummings, 1977-1982  
Sir John Crawford, 1971-1976

**Technical Advisory Committee Executive Secretaries, 1971-2003**

Shellemiah Keya, 1996-2003  
Guido Gryseels, 1995-1996  
John Monyo, 1985-1994  
Alexander von der Osten, 1982-1985  
Philippe Mahler, 1976-1982  
Peter Oram, 1971-1976

**CGIAR Fund Council Composition, 2011**

Chair: Inger Andersen  
Executive Secretary: Jonathan Wadsworth

**DONOR COUNTRIES**

Europe: European Commission (Marc Debois), Sweden (Philip Chiverton), Switzerland (Carmen Thoennissen), United Kingdom (Alan Tollervey)  
North America: Canada (Kimberley Bowlin), USA (Robert Bertram)  
Asia: Japan (Kenichiro Tanaka)  
Pacific: Australia (Nick Austin)

## DEVELOPING COUNTRIES AND REGIONAL ORGANIZATIONS

Sub-Saharan Africa: Kenya (Romano Kiome), Nigeria (B.Y. Abubakar)  
Asia: China (Ye Anping), India (S. Ayyappan)  
Pacific: Papua New Guinea (Raghunath Ghodake)  
Central and West Asia and North Africa: Egypt (Adel El Beltagy)  
Latin America and the Caribbean: Brazil (Luciano Nass)  
Regional fora: Association of Agricultural Research Institutions in the Near East and North Africa (Ahmed N Al-Bakry)

## MULTILATERAL AND GLOBAL ORGANIZATIONS

World Bank: Juergen Voegelé  
International Fund for Agricultural Development: Rodney Cooke  
Food and Agriculture Organization of the United Nations: Xiangjun Yao  
Global Forum on Agricultural Research: Monty Jones

## FOUNDATIONS

Bill & Melinda Gates Foundation: Prabhu Pingali  
International Development Research Centre: Jean Lebel

## CGIAR Fund Office

Executive Secretary of the Fund Council and Head of the Fund Office: Jonathan Wadsworth

## CGIAR Trustee

World Bank: Pamela Crivelli

## Independent Science and Partnership Council (ISPC)

ISPC Chair: Kenneth Cassman  
ISPC Executive Director: Peter Gardiner  
ISPC Members: Derek Byerlee, Vibha Dhawan, Margaret Gill, Rashid Hassan, Marcio de Miranda Santos, Jeffrey Sayer

## Consortium of International Agricultural Research Centers

### CONSORTIUM BOARD COMPOSITION

Carlos Pérez del Castillo (Chair)  
Carl Hausmann (Vice Chair)  
Tom Arnold

Mohammed Ait-Kadi  
Ganesan Balachander  
Gebisa Ejeta  
Ian Goldin  
Lynn Haight  
Lloyd Le Page (CEO ex-officio board member until Sep 2011)

## CONSORTIUM OFFICE

Lloyd Le Page, Chief Executive Officer (until Sep 2011)

## Research Centers

### AFRICA RICE CENTER

Getachew Engida, Board Chair  
Papa Abdoulaye Seck, Director General

### BIOVERSITY INTERNATIONAL

Paul Zuckerman, Board Chair  
Emile Frison, Director General

### INTERNATIONAL CENTER FOR TROPICAL AGRICULTURE (CIAT)

Juan Lucas Restrepo, Board Chair  
Ruben Echeverria, Director General

### CENTER FOR INTERNATIONAL FORESTRY RESEARCH (CIFOR)

Andrew Bennett, Board Chair  
Frances Seymour, Director General

### INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER (CIMMYT)

Sara Boettiger, Board Chair  
Thomas Lumpkin, Director General

### INTERNATIONAL POTATO CENTER (CIP)

Peter Van der Zaag, Board Chair  
Pamela Anderson, Director General

### INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS (ICARDA)

Henri Carsalade, Board Chair  
Mahmoud Solh, Director General

### INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS (ICRISAT)

Nigel Poole, Board Chair  
William Dar, Director General

**INTERNATIONAL FOOD POLICY  
RESEARCH INSTITUTE (IFPRI)**

Fawzi Al-Sultan, Board Chair  
Shenggen Fan, Director General

**INTERNATIONAL INSTITUTE OF  
TROPICAL AGRICULTURE (IITA)**

Bryan Harvey, Board Chair  
P. Hartmann, Director General (until Oct 2011)  
Nteranya Sanginga, Director General (from Nov 2011)

**INTERNATIONAL LIVESTOCK  
RESEARCH INSTITUTE (ILRI)**

Knut Hove, Board Chair  
Carlos Seré, Director General (until Sep 2011)  
Jimmy Smith, Director General (from Nov 2011)

**INTERNATIONAL RICE  
RESEARCH INSTITUTE (IRRI)**

Emerlinda Roman, Board Chair  
Robert Zeigler, Director General

**INTERNATIONAL WATER  
MANAGEMENT INSTITUTE (IWMI)**

John Skerritt, Board Chair  
Colin Chartres, Director General

**WORLD AGROFORESTRY CENTRE**

Eric Tollens, Board Chair  
Tony Simons, Director General

**WORLD FISH CENTER**

Remo Gautschi, Board Chair  
Stephen Hall, Director General

# ABBREVIATIONS

<b>ACIAR</b>	Australian Centre for International Agricultural Research	<b>ICIPE</b>	International Center for Insect Physiology and Ecology
<b>AGM</b>	annual general meeting	<b>ICLARM</b>	International Center for Living Aquatic Resources Management, Malaysia
<b>AVRDC</b>	Asian Vegetable Research and Development Center	<b>ICRISAT</b>	International Crops Research Institute for the Semi-Arid Tropics, India
<b>CBC</b>	Committee of Board Chairs	<b>IDRC</b>	International Development Research Centre
<b>CCAFS</b>	CGIAR Research Program on Climate Change, Agriculture and Food Security	<b>IFAD</b>	International Fund for Agricultural Development
<b>CDC</b>	Center Directors Committee	<b>IFDC</b>	International Fertilizer Development Center
<b>CDMT</b>	Change Design and Management Team	<b>IFPRI</b>	International Food Policy Research Institute, USA
<b>CGIAR</b>	Consultative Group on International Agricultural Research	<b>IIMI</b>	International Irrigation Management Institute
<b>CIAT</b>	Centro Internacional de Agricultura Tropical (International Center for Tropical Agriculture), Colombia	<b>IITA</b>	International Institute of Tropical Agriculture, Nigeria
<b>CIFOR</b>	Center for International Forestry Research, Indonesia	<b>ILCA</b>	International Livestock Center for Africa
<b>CIMMYT</b>	Centro Internacional de Mejoramiento de Maiz y Trigo (International Maize and Wheat Improvement Center), Mexico	<b>ILRAD</b>	International Laboratory on Research on Animal Diseases
<b>CIP</b>	Centro Internacional de la Papa (International Potato Center), Peru	<b>ILRI</b>	International Livestock Research Institute, Kenya
<b>CRP</b>	CGIAR Research Program	<b>INIBAP</b>	International Network for the Improvement of Banana and Plantain
<b>CSO</b>	civil society organization	<b>IRRI</b>	International Rice Research Institute, Philippines
<b>Embrapa</b>	Empresa Brasileira de Pesquisa Agropecuária (Brazilian Agricultural Research Corporation)	<b>IWMI</b>	International Water Management Institute, Sri Lanka
<b>EPMR</b>	external program and management review	<b>M&amp;E</b>	monitoring and evaluation
<b>ExCo</b>	Executive Council of the CGIAR	<b>NARS</b>	national agricultural research system(s)
<b>FAO</b>	Food and Agriculture Organization	<b>NERICA</b>	New Rice for Africa
<b>GFAR</b>	Global Forum on Agricultural Research	<b>NGO</b>	nongovernment organization
<b>GRiSP</b>	Global Rice Science Partnership	<b>ODA</b>	official development assistance
<b>GTZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)	<b>PARC</b>	Public Awareness and Resources Committee
<b>HIV/AIDS</b>	human immunodeficiency virus/acquired immune deficiency syndrome	<b>PGRFA</b>	plant genetic resources for food and agriculture
<b>IAEG</b>	Impact Assessment and Evaluation Group	<b>TAC</b>	Technical Advisory Committee
<b>IARC</b>	international agricultural research center	<b>TMT</b>	transition management team
<b>ICARDA</b>	International Center for Agricultural Research in the Dry Areas, Syria	<b>UNDP</b>	United Nations Development Programme
		<b>USAID</b>	United States Agency for International Development

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