

**CGIAR 2000 International Centers Week
ICW2000**

Washington, DC, October 23-27

Summary of Proceedings and Decisions

***Charting the CGIAR's Future
Reshaping the CGIAR's Organization***

A

Issued by the CGIAR Secretariat

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CONTENTS

I. Overview	1
II. Major Decisions.....	2
III. Summary of Proceedings	
Chairman's Opening Address	4
Chairman's Announcements.....	12
Charting the Future of the CGIAR.....	15
Frontier Science, Global Public Goods, and the CGIAR: An Issues Seminar	22
Centers' Forum on Frontier Science.....	25
CGIAR Business Matters	40
Recommendations of CGIAR Committees	40
2000 Funding Update.....	40
Long-Term Financing Strategy.....	40
2001 Financing Plan.....	40
2002 Financial Planning Framework.....	41
Setting the 2002 Research Agenda.....	41
External Program and Management Review of CIAT.....	42
CGIAR Plant Breeding Review.....	43
Land Use and Climate Change.....	43
Integrated Natural Resources Management.....	45
Impact of HIV/AIDS on Agriculture	46
CGIAR Africa Strategy.....	47
International Undertaking on Plant Genetic Resources.....	48
Other Business	
Briefing by the World Bank Operations Evaluation Department	48
Honors and Awards.....	49
Special Honors	50
Farewell to Roberto Lenton and Alexander von der Osten	50
Tribute to Ismail Serageldin (Box).....	51
Future CGIAR Meetings.....	52
Chairman's Closing Remarks.....	52
IV. Annexes	
ICW2000 Agenda.....	58
List of Documents.....	59
List of Participants.....	61
Reports from CGIAR Cosponsors and Committees	
> Highlights of Cosponsors Meeting.....	85
> Report of the Twentieth Meeting of the Oversight Committee.....	86
> Report of the Eighteenth Meeting of the Finance Committee.....	91
> TAC Chair's Report.....	95

✧ Report of the Eleventh Session of the Genetic Resources Policy Committee.....	97
✧ Report of the NGO Committee Meeting.....	109
✧ Report of the Thirteenth Meeting of the Private Sector Committee	115
✧ Report of the Science Partnership Committee.....	119
✧ Report of the Center Directors Committee	121
✧ Report of a Meeting of the CGIAR Consultative Council	125
CDC Statement on the Guiding Principles on Intellectual Property Rights	127
CDC Statement on the Scope of the Multilateral System	128
CDC Statement on the Need to Resolve Outstanding Issues Concerning IPR.....	129
Reports of Working Groups.....	131
Acronyms and Abbreviations.....	inside back cover

OVERVIEW

The key issues on the table at ICW2000 were the organizational and structural changes required to fulfil the new CGIAR vision as well as to ensure the effectiveness of all components of the CGIAR System. CGIAR Chairman Ian Johnson set the tone for the meeting with an opening statement about the daunting developmental challenges in the battle against hunger and poverty. The global environment, climate change, ecological and natural resource management, natural disasters, public health and nutritional concerns have all added new dimensions of complexity to the CGIAR's original focus on agricultural research for development. There is strong sentiment for change in the CGIAR. Current realities require the CGIAR to gear up for change, and such change must be reflected in both form and function.

Chairman Johnson noted that the Centers are the central force of the CGIAR and should be at the forefront of the organization. Center Directors were represented at the table with Members as an expression of the collective endeavor that is the CGIAR. To help frame the discussions at ICW2000, the Chairman outlined the major challenges facing CGIAR shareholders and stakeholders:

- Maintaining science and research at the Centers at the highest levels;
- Transforming the CGIAR into a "new age" institution characterized by lightness, agility, responsiveness, and cost-efficiency;
- Strengthening the CGIAR's position as a producer of global public goods;
- Redefining a framework for partnerships;
- Keeping CGIAR funding stable and secure; and
- Devising the most effective means of linking CGIAR research with national development programs.

The Chairman strongly emphasized that change will build on the System's demonstrated strengths and should be based on a holistic approach because all organizational components are inter-connected and cannot be considered in isolation. ICW2000 closed with a clear understanding of the terms of change, underlying principles at work, agreement on next steps, and adoption of a process to culminate at MTM2001, where final decisions on form and function can be taken. A Change Design and Management Team, under the guidance of the Steering Group announced at ICW2000, will generate concrete proposals for improving the CGIAR's governance, organization and structure. The Group spelled out the substance of the team's work at ICW2000 and the team is expected to come up with the following deliverables by MTM2001:

- A restructuring action plan for the entire System with a clear rationale for program integration and/or consolidation of Centers (including analysis of options);
- A governance plan that streamlines CGIAR decision-making and clarifies the roles of all components (including Cosponsors, the Consultative Council, and other committees) and brings net efficiency gains;
- A business plan for:
 - increasing efficiency in the provision of common services,
 - coordinating Systemwide programmatic activities, and
 - reducing overheads in order to transfer more resources to research.

The Group agreed that opportunities for stabilizing long-term financing should be explored on a parallel track, with details available for ICW2001.

MAJOR DECISIONS

1. CGIAR Structure and Governance.

The Group reached consensus on two sets of actions:

A. Actions for quick wins to be implemented under the Chairman's guidance without delay:

- Encourage Centers to proceed with program realignments on which there already is consensus. Members fully endorsed the current efforts by Centers to work more closely with each other.
- Encourage Centers to pool their common services, where there are obvious cost advantages.
- Support Centers in their efforts to review the composition and procedures of their boards.
- Implement the bottom-up priority setting approach in at least one region as soon as possible, on an experimental basis, with the help of TAC and GFAR and in collaboration with existing national and regional institutions.
- Consider holding only one CGIAR meeting per year, i.e. eliminate the Mid-Term Meeting after the Durban MTM, and develop options for decision-making between meetings. Following ICW2001, meetings could be held on alternate years, one in a developing Member country and the other in the US (at the World Bank) or in another developed Member country.
- Initiate a low-cost means of keeping stakeholders informed and engaged between meetings through regular electronic communication (e.g., e-conferences, monthly e-newsletter, tele/ video conferencing).
- Conduct meetings with greater efficiency: slim down the agenda, and set apart a day for decision-making. Prepare agenda items and draft decision memoranda prior to meetings and submit them to Members normally three weeks in advance.
- Implement a coordinated effort in public awareness and resource mobilization.

B. Actions with a medium or long-term perspective. The Chairman will work with Members and Centers on these issues to develop proposals for

endorsement by the CGIAR at MTM2001. As part of this process, the Group:

- empowered an ad hoc Steering Group headed by the CGIAR Chair to coordinate the change process on its behalf through MTM2001.
- asked the Chairman to appoint a Change Design and Management Team, in consultation with the Steering Group, to generate concrete proposals for improving the CGIAR's governance, organization and structure.
- charged the Change Design and Management Team with providing the following deliverables by MTM2001:
 - A restructuring action plan for the entire CGIAR System with a clear rationale for program integration and/or consolidation of Centers (including analysis of options).
 - A governance plan that streamlines CGIAR decision-making and clarifies the roles of all components (including Cosponsors, the Consultative Council and other committees) and brings net efficiency gains.
 - A business plan for:
 - increasing efficiency in the provision of common services;
 - coordinating System-wide programmatic activities; and,
 - reducing Center and System overheads in order to transfer more resources to research.

(pp. 15-21.)

2. Recommendations of CGIAR Committees. The Group received and endorsed written and oral reports and recommendations of the Cosponsors and the Oversight, Finance, Technical Advisory, Genetic Resources Policy, Non-Governmental Organization, Private Sector, Science Partnership, Center Board Chairs, and Center Directors Committees, and the Consultative Council. (p. 40.)

3. 2000 Funding Update. The Group received a report from the Finance Committee on the expected 2000 financial outcome, noting that the 2000 financial

outcome of \$340 million is in line with the level approved at ICW99. Lagging disbursements, however, continue to be a problem. (p. 40.)

4. Long Term Financing Strategy. The Group received the final report of the Finance Committee Working Group on the Long Term Financing Strategy. The Group endorsed the Finance Committee recommendation that the Long Term Financing Strategy be implemented expeditiously and in the context of the overall change management process. (p. 40.)

5. 2001 Financing Plan. The Group adopted the Finance Committee's recommendations on the financing plan for the 2001 research agenda. Center financing plans were endorsed at identified levels and an overall CGIAR financing plan of \$340 million was approved. Regarding the World Bank's commitment of \$45 million, the Group adopted the recommendations of the Finance Committee. The World Bank has assumed the chairmanship of the Finance Committee. (pp. 40-41.)

6. 2002 Financial Planning Framework. The Group received a report on the financial planning framework for 2002. The 2002 plan should be based on a planning framework of \$340 million, conform to TAC recommendations for specific program guidance, and be presented as a set of projects using the CGIAR logical framework adopted at ICW98. The Group commissioned the preparation and distribution of guidelines as preparation for the 2002-2004 medium term plans by the Centers. (p. 41.)

7. External Program and Management Review of CIAT. The Group endorsed the *ad hoc* committee's conclusions and recommendations. (pp. 42-43)

8. CGIAR Plant Breeding Review. The Group endorsed the recommendations of the review of plant breeding methodologies throughout the CGIAR System. (p. 43.)

9. Land Use and Climate Change. After discussing the links between global climate change and the CGIAR's research agenda, the Group welcomed the overview of the current scientific findings on climate change and affirmed its support for the work plan proposed by the Centers. The Group welcomed the potential for increased collaboration between the CGIAR and GEF. (pp. 43-45.)

10. Integrated Natural Resources Management. The Group received a progress report on the work of the INRM Task Force and endorsed the INRM work program. (pp. 45-46.)

11. Impact of HIV/AIDS on Agriculture. The Group agreed that the CDC should take the lead in developing a "shared code of conduct" regarding HIV/AIDS policies for Centers and that the Centers' work programs should take into account the relationship between HIV/AIDS and food security. (pp. 46-47.)

12. CGIAR Africa Strategy. The Group endorsed the efforts to improve CGIAR-NARS partnerships in Africa. (pp. 47-48.)

13. International Undertaking on Plant Genetic Resources. The Group adopted a statement that the proposed multilateral system under the revised International Undertaking on Plant Genetic Resources should include those crops of greatest importance to the work of the CGIAR. The Group also endorsed a statement stressing the Centers' full commitment to the FAO/CGIAR agreement on genetic resources and to upholding the spirit and letter of those agreements. (p. 48.)

14. Honors and Awards. On behalf of the group, the Chairman presented the 2000 King Baudouin Award to WARDA for developing "New Rice for Africa" (NERICA) and the 2000 Excellence in Science Awards to: (pp. 49-50.)

- Bernard Vanlauwe, IITA, *Promising Young Scientist*
- Alberto Barrion, IRRI, *Outstanding Local Scientist*
- Ellen Payongayong, IFPRI, *Outstanding Local Scientific Support Staff*
- CIMMYT, IRRI, and NARS partners (Bangladesh, India, Nepal and Pakistan) in the Rice-Wheat Consortium for the Indo-Gangetic Plains, *Outstanding Scientific Partnership*.

15. Special Honors. The Group unanimously approved resolutions honoring Roberto Lenton, UNDP Cosponsor representative, and Alexander von der Osten, CGIAR Executive Secretary, for their contributions and service to the CGIAR. (pp. 50-52.)

16. Future Meetings.

MTM01 May 21 – 25, Durban, South Africa

ICW01 October 29 – November 1, Washington, DC

Chairman's Opening Address

Welcome

Good morning, everyone. I am really delighted to welcome you to International Centers Week. I am looking forward to a full and active participation in this week's critical discussions as we seek to think about the future and chart the future of the CGIAR.

When I was asked to take over the chairmanship earlier this year, and when I knew of this week's meeting, I decided to invite two very special people, very special guests.

The first is Wilfried Thalwitz, who is a former Chairman of the CGIAR, as you know. Unfortunately, Wilfried could not be here today, but has written a very nice note of support and encouragement. Wilfried had an enormous influence over my career in the Bank. He was a wonderful mentor and teacher, and I am in contact with him regularly. He remains in touch with the developments in the CGIAR, and if he had been here, he would have given us good advice. Perhaps we can invite him to join us at a future meeting.

The second special guest I invited—and I am really delighted that he is here—is Nyle Brady. I worked with Nyle some years ago on a number of different issues related, actually, to setting up international institutions, the ESMAP program and the Global Environment Facility. I have known him over those years as a very, very principled person, of great inspiration to me personally, and a good friend and mentor and as someone who cares deeply about the CGIAR. What is so impressive about Nyle is that he has kept up his contact with the CGIAR. So thanks very much, Nyle, for the very many years of advice and friendship and for being here to share your insights with us.

There are a number of other distinguished alumni here in the hall including former Chairman David Hopper, former Executive Secretary Curt Farrar, and former TAC Chair Alex McCalla and, for me, also a former colleague in the World Bank. I welcome them, and I welcome all of you to this event.

I feel very privileged to have been selected as your eighth Chairman. I am pleased to succeed Ismail Serageldin, a colleague and close friend, who provided this group with dynamic and farsighted leadership during the past six years. I have known Ismail as a colleague for many years, and I think his heart is also very much with the CGIAR and its work.

Facing the Future: Continuity and Change

Over the past few weeks, I have really been very much in a listening and learning mode. I have consulted a great many stakeholders, many in this room, on the themes and issues for this week. I have met with several Members. I visited six Centers, and hope that by the end of next year, I will have visited them all.

I have seen the work of Center scientists in the field, and this is what has left the biggest impression on me personally: the interface of the farmer, the rural poor, and international science and research. And I have been impressed by the competence and the dedication of our scientists and researchers.

I have also had excellent meetings with Center Directors, at which I learned a great deal about their concerns. I was with the Synthesis Group that was organized by Andrew Bennett and the Oversight Committee, and just recently, I chaired a meeting of the Consultative Council in preparation for the deliberations, discussions and decisions of this week. There, too, I listened and I learned.

Throughout my soundings, I have encountered enthusiasm, and if there is one thing that I have never seen before, it is the level of enthusiasm among people here in this room for the goals and objectives of the CGIAR. It really is extraordinarily impressive how much people care about the CGIAR, and as long as we have that, we have so much going for us.

I sensed at the same time that there was a recognition that change was needed, and more importantly and more positively, that change would be welcome.

A well-structured set of discussions has taken place in the past few months, as a prelude to change. Consultations among stakeholders have been participatory, transparent, and rich in substance. Center Directors and others have made important proposals for our deliberation and decision. Options have been reviewed and synthesized into potential action points. TAC, under Emil Javier's leadership, has prepared a very important report on reshaping the CGIAR.

All of these activities have required intensive effort, a strong sense of dedication and commitment to change. And I want to thank all of those who have been involved in these planning exercises, because they have given much of their time and effort, and they have helped us shape our week's deliberations. I hope these preparatory exercises will allow us to propel our work forward at the end of this week.

The CGIAR and the Global Context

The CGIAR started as an unique effort to mobilize agricultural research on the front lines of the battles against hunger and poverty. Its founding aims were to focus sharply on specific problems that would be resolved through agricultural research, to ensure that the products of research would be freely available as public goods across national boundaries, and to assume responsibility for the conservation and international mobility of germplasm.

Since then, new challenges have been added. The global environment, particularly climate change; ecological and natural resource management; public health and nutritional concerns are also at the forefront of our thoughts in development assistance and development work.

It is my belief that if we remain faithful to the original vision while setting it in a contemporary context, we will be well on the way to efficient and effective change.

So let me reflect for a few moments on the nature of the contemporary context of which I have just spoken, within which the future work of the CGIAR must be placed.

I think first and perhaps foremost, we must be very clear about where we are today – hunger and poverty still exist on an unacceptable scale. The most recent *World Development Report*, published last month by the World Bank, reminds us that—and I quote—"destitution persists even though human conditions have improved more in the past century than in the rest of history."

You are all familiar with the details. One-fifth of the world's population lives in absolute poverty, on less than \$1 a day. Almost half the world's population live on less than \$2 a day. FAO's

annual report on *The State of Food Insecurity in the World*—that is a telling title, *The State of Food Insecurity*—published last week, noted that more 800 million, I think it was 826 million, to be precise, do not have enough to eat. One-fifth of the children in the world's poorest countries die before they reach the age of five. Most live in rural areas, and many rely on agriculture.

We also know that the diseases of poverty inflict heavy damage on the poor. Mrs. Brundtland, Director-General, WHO, said earlier this month at a meeting that: "A few main diseases are directly biting into the economic growth of poor countries." We will hear more this week about how HIV/AIDS is devastating many countries in Africa, where AIDS orphans are becoming an overwhelming fact of life, and where a generation of rural workers and farmers may be destroyed. Over 40 million children in 23 developing countries are expected to lose at least one parent to HIV/AIDS during the current decade.

I spoke just recently with some farmer organization groups about the role of young farmers' associations, and couldn't help but be struck by the grim reality that in some parts of the world, young farmers' organizations may not exist in the future, because young farmers won't exist. That may have a profound effect—a *profound effect*—on the future of agriculture, and the future of rural development.

Poverty, though, is not just about income or health. It is also, as we are beginning to discover in much of our work in the World Bank, about disenfranchisement, about social alienation, about lack of security and lack of voice. It is a deeper and broader and more profound issue than we have ever understood before, and we should never forget that the majority of poor people live in rural areas and, as I said earlier, many rely on agriculture.

Next, on an issue that is very close to my heart having worked in the Global Environment Facility over the last number of years before I came to this position, we are destroying much of the planet's natural capital at a very, very rapid rate. The Earth's fragile natural resources are burdened by over-consumption, and by population pressures in poor countries.

We are losing biodiversity at historic rates, with potentially catastrophic but as yet uncertain consequences. The world has lost half its tropical forests during my own lifetime. The figure that I often quote is that we lose a country the size of Greece every single year to deforestation.

In some countries, the economic cost of producing clean water is greater than the economic cost of producing oil, and if we think of the future, and we think of a peaceful future for our children and their children, it is likely that natural resources will be at the forefront of whether we can indeed achieve stability and peace in many parts of the world.

We know that the world's marine fisheries are overexploited. Soils are constantly degraded and destroyed, with profound economic costs. I saw figures just recently which suggested that in some countries, annual agricultural production is 10 percent lower than it otherwise could be, as a result of soil degradation and land degradation.

A potential increase in the number of poor people as the world's population increases by an estimated 2 billion over the next 25 years, and possible shortfalls in our own ability to deliver adequate, safe water, good health and food, could have disastrous consequences for the poor.

Sustainable development to prevent such consequences is indeed a global challenge. And sustainable development means not only caring for ourselves today, but also leaving the world a better place for our children and their children. Economic growth must preserve the capacity of physical, ecological and economic systems to carry improvements into the future.

And if, as an aside, I can say I have one major concern about development assistance that engages all of us—and I include ourselves here in the World Bank—it is that we have got to consider whether we are becoming a little too myopic; whether in looking to deal with the terrible problems of today, we are not dealing as actively and as efficiently with the problems of tomorrow. Research, of course, is very much at the forefront of tomorrow's world as well as of today's world.

Our work will acquire added significance as the world grapples with these problems. The CGIAR must contribute to the solutions we seek in order to make our world a more secure and sustainable place for all.

Our research can help farmers to produce sufficient food to feed a growing world population with, let's face it, most of the increases occurring in poor countries.

Our research can create technologies that enable small-scale farmers to serve as the long-term stewards of the natural resources on which they, and let's face it, we, also depend.

And our research can help people better understand the public policy choices that underpin social and economic sustainable development for poor rural people.

Indeed, I would submit that our programs, structures and resources must be designed and mobilized to support these broad goals.

Into the Future: Six Challenges

Let me now turn to the future. The realities around us demand that we gear up for change. It seems to me that we must decide on the terms of change before we leave this hall on Friday. It is incumbent upon us to come to grips with the fine work that has gone on over the last 12 to 18 months and take decisions and move the agenda forward. If we don't, we will not serve the scientists who reside at the Centers, and work out in the field, working with poor farmers, working on important issues. Our duty is to them.

I would like to suggest the following six challenges.

The first challenge, I believe, is to maintain science and research at the Centers at the highest levels. This is after all a scientific and research network. The world has only recently acknowledged the fundamental importance of science and technology in achieving poverty alleviation and sustainable development. But this is where we in the CGIAR started, as pioneers in the mobilization of science and research for development, and it is where we have made the most significant contribution to human welfare. The need to keep our science and research at the cutting edge, but at the same time, relate it to the recognized needs and aspirations of the world's poor and then ensure its relevance to small farmers remains unchanged.

As agriculture seeks to be more sustainable, it will need to be ever more science-based than before. Agriculture has an important role to play in the future of our Planet. Indeed, in my view—and I have said this very often—food security—and I would add parenthetically that energy security is the other twin to food security—is absolutely essential to long-term sustainability.

In the case of agriculture, historically low commodity prices have certainly lulled us into a false sense of security, a true belief that the agricultural revolution is won and is behind us. But let's look ahead. In 40 to 50 years, which is not so far ahead, certainly in the time of our children, we may have 3 billion extra mouths to feed, and even modest income growth, which we have to assume and

we have to hope for, will add considerably to demand. Estimates vary, as they always will in projecting the future, but it is likely that world food production will need to double by then, and that is an enormous challenge. And where will most of that demand come from? It will come from developing countries.

So if we are to eliminate poverty, we will need strong and sustained economic growth, and the agricultural sector is central to that growth. Research focused on productivity gains is absolutely imperative. But if we are to eliminate poverty, we will also need targeted interventions and public policies that directly help the poor, most of whom live in rural areas. The agricultural sector is an important conduit to good health and good nutrition. Research that links agriculture with public health is in my view vital.

And if we are to eliminate poverty, we will need to manage our ecosystems and natural resource base in a prudent manner. One in four of the world's rural poor live in or are adjacent to forested areas. So natural resources are central.

Agriculture is central to the objective of poverty alleviation, and we need to better understand the kinds of actions that can allow agriculture to coexist peacefully with natural ecological systems. And if we are to eliminate poverty, we will need to understand the actions in the rural sector that can ensure social stability, provide safety nets to those in need, and ensure that rural social capital is enhanced.

In all of these efforts, high-quality research must underpin our response to the challenges ahead.

The second challenge is to ensure that the CGIAR captures and is fully characterized by all the assets of a new-age institution: lightness, agility, responsiveness, and cost-efficiency. Indeed, the CGIAR already has many of the characteristics of such an institution. It was a knowledge-based network long before business school professors invented the term. It has begun to use information technology as an instrument of research as well as knowledge-sharing. And in some instances, we have begun to function in a virtual capacity. These are all attributes that professors in organizational theory talk about when they try to describe a new-age institution.

But the one area that I would submit to you where we are not quite a new-age institution is in our gender and diversity goals. Over the next few years, we have got to achieve a far better balance, I believe, in terms of our management and in terms of our scientists. The balance is still, I believe, out of line in many respects with the new international philosophy, and with what is patently right and fair.

New information-sharing technologies provide us with extraordinary opportunities to function as a platform for South-South cooperation. We are already utilizing these, and I am so impressed by the level of South-South cooperation that goes on in the CGIAR network. But how do we enhance what we are already doing? How do we use the new capacities to strengthen the web of relationships amongst farmers, amongst consumers, among civil society institutions, scientists, and policymakers? How can we keep costs down and reduce bureaucracy?

These are not rhetorical questions; they are at the very core of the quest for a new future, and they are at the very core of the work that needs to be done this week.

We must also have simple, clear rules for decision-making, whether it be on strategy, policy, or on administration. Indeed, I believe that this week, we must come to closure on the main elements of the future, and it is for you to begin thinking as I speak today – do you seek a more

unifying approach to the work of the CGIAR? And if so, does the federation model outlined in the Synthesis Report offer opportunities for gains in efficiency and gains in effectiveness?

And surely we can be more effective in our meetings and deliberations in both agenda-setting and strategy, as well as in executive decisions. We must be nimble and businesslike, yet have the trust and confidence of all of our interlocutors, especially those from developing countries. We must ensure that our overhead costs are kept to a minimum and that our meetings and corporate work are efficient and effective.

Let's look at the peer review systems. Are the current peer review systems commensurate with the need for world-class science? How do we ensure accountability to shareholders, on the one hand, but also to stakeholders? We must find a way of dealing effectively and transparently with both shareholders and stakeholders, and this, I think, is an important element of the CGIAR. It indeed has many wonderful stakeholders as well as almost 60 shareholders.

I now move on to the third challenge: to strengthen our position as producers of global public goods. The role of the CGIAR as a major producer of global public goods in agricultural research is widely recognized -- most recently, at the "Group of 8 Summit" in Okinawa, and at the Annual Bank/Fund Meetings in Prague, which I attended. I listened to many speeches and heard much discussion about global public goods, and what I found very encouraging is that the CGIAR was frequently mentioned as good practice, was commended as a model, and was singled out as an organization or an effort that typified and exemplified the global public goods debate. I believe we have much to build on in that regard.

This mode of operations, global public goods, has had a positive impact on the conservation and use of genetic resources and, thereby, on both food security and natural resource management. The challenge of keeping CGIAR research products in the global public domain has been made complex by a number of developments, including the increased involvement of the private sector in agricultural research, the expansion of intellectual property protection through patents, and the emergence of international regimes that may hamper the free movement of genetic resources across national boundaries.

We will have a challenging journey ahead of us on many of these issues, but our role and function as a purveyor of global public goods must not be underestimated.

The debate on global public goods, incidentally, is really just heating up. Within the World Bank, our independent evaluation arm, the Operations Evaluation Department (OED), has recently decided to undertake a major review of global public goods. I have asked them specifically to look at the CGIAR, and I have invited Bob Picciotto, who is the Director General of the OED, to brief us later this week about his thinking and his work on global public goods.

This brings me to the fourth challenge, which is to redefine a framework for partnerships. The "Declaration and Action Program" that was adopted by the Ministerial-level meeting at Lucerne in 1995 provided the impetus for the CGIAR to set up three partnership committees. These arrangements have brought new perspectives and new energy into decision-making. Is that all that we require of partnerships? Would the CGIAR and its beneficiaries be better-served by operational partnerships directly involving the Centers, or with the Centers serving as catalysts?

Many different kinds of linkages can improve our own effectiveness or bring about the effectiveness that we espouse. The perspectives of anthropologists, agronomists, economists, entrepreneurs, and other experts will ultimately strengthen the CGIAR. Collective action by farmers to manage land appropriately could have an enormous impact on global climate change, for

example. So we have got to work with farmers to identify the research that is needed at the local level.

As TAC has noted very persuasively in its report, the regional dimension of our work must also be taken into account. During a recent visit to Africa, I was very impressed by the way the CGIAR is working in the field. We met with a number of farmers and farmers' organizations in Kenya. We met with Kenya's National Research Centers, NGOs, civil society groups, farmers' organizations, and with the private sector—and here, I do not mean the multinational private sector—I mean the local village-level private sector and entrepreneurs.

Tracing those linkages and relationships takes care and patience and must build upon relative competence and comparative advantage. That is something that we must keep at the forefront of our own deliberations; not how do we act in isolation, but where can we make a difference, where do we add value.

The last 20 years have also seen a surge in private sector funding in agricultural research, and the private sector now accounts for around 90 percent of overall research funding. Michael Lipton, delivering last year's John Crawford Memorial Lecture, made a very persuasive argument about the massive shift in the role of the private sector in this arena. The marketplace is clearly efficient—it is a very efficient mechanism for allocating resources—but it does not provide the public goods needed to promote sustainable development. It does not provide the goods that the very poor need very often. We must therefore find new and creative ways of working with the private sector.

We must also review our relationship with national and, where appropriate, regional agricultural research institutions, and we should also consider how competitive funding might play a role in forging partnerships and knowledge-sharing.

I would also submit that electronic interconnectivity offers exciting new opportunities for creative partnerships, and it certainly offers a tremendous opportunity for broad-based engagement strategies and stewardship strategies that can underpin the future of the CGIAR.

The fifth challenge is to keep our funding stable and secure. For some time now, total annual contributions have been in the range of \$330 to \$340 million per year. These amounts signify valued support and are very much appreciated. But are they adequate, given the complex nature of the tasks of today and tomorrow? I suspect not. Nor do I believe that agricultural research achieves all of its potential when it is supported for a fragmented agenda of small projects, as sometimes happens. Uncertain and *ad hoc* pledging of resources does not provide scientists with the assurance of continuity required for them to carry out their tasks free of frustrating disquiet. Is it time to consider change? Could we entertain larger programmatic proposals that might attract multiyear commitments, as well as greatly reduce transaction costs associated with smaller projects.

Could the increased interest in global public goods provide a platform for us to elevate our own sights and place the CGIAR at the center of such discussions?

I believe we should think about these issues carefully.

The sixth challenge is to devise the most effective means of linking our research in the CGIAR with the development programs of the countries we serve. We must also ensure a better strategic alignment with the programs of Members, including the regional banks and the World Bank. In the World Bank, I believe we have been remiss over the last few years in not aligning our mainstream work in agriculture with that of the CGIAR.

Our research agenda, however, is congruent with the World Bank's commitment to reduce poverty and improve living standards through sustainable growth and investment and with the development goals recently reaffirmed by the Millennium Summit of the United Nations. Major areas of research directly relevant to these goals include integrated natural resource management, integrated gene management, rural development, and agricultural knowledge and information management.

New technologies created as a result of our research can underpin sustainable development, but these technologies will not flow through to developing countries unless multiple linkages are developed with the banks, with other agencies, and with the developing countries themselves.

I have asked our three cosponsors representative here—Jacques Eckerbil for FAO, Roberto Lenton for UNDP, and Bob Thompson for the Bank—to begin thinking about how their own mainstreaming activities could really be aligned in a seamless way with the work of the CGIAR. If we work jointly, and we work together, and see the CGIAR as part of a broader system, we can really make an even bigger difference.

All six of these challenges are interconnected. The required level and quality of funding to meet them will not be easily forthcoming unless we can demonstrate beyond doubt that we are really functioning as a new age institution in the fullest sense of that phrase.

We need to nurture the best peer review systems so that the excellence of our work and our science can never be questioned.

We must show that we have done everything reasonable to keep our overhead costs low, for with low overheads, more money can be directed to research and development.

We must ensure our relevance by drawing partners into operational arrangements from planning to research to the delivery of results.

And I believe we must abide by the rule of subsidiarity – broad macro direction in strategy, but not at the price of micro-management.

Moving On

Colleagues, you know better than I that agricultural development comes from years of dedicated effort and ingenuity – step by step, experiment by experiment, course correction by course correction, application by application.

The CGIAR has been at the vanguard of past efforts to transform agriculture, but past success alone does not guarantee continued effectiveness and impact. New times demand new approaches. New problems demand new solutions.

We must act, therefore, to achieve decisive change and quick wins. On my recent field visit to Western Kenya with Pedro Sanchez and Hank Fitzhugh from ICRAF and ILRI, I heard a farmer recite a really wonderful poem; it was very moving. We went into a village, and a farmers' organization led by a very articulate woman gave us a poem. She said: "Our farms are sleeping, and they need awakening, and we need research. We need help in awakening our farms."

Those touching words suggest a motto for us as well. We must reawaken the CGIAR to the promises and challenges of tomorrow. I believe we have an extraordinary opportunity to reshape, rededicate, and reenergize the CGIAR.

The need for the CGIAR to continue its mission and work is every bit as great today as it was when it was founded close to 30 years ago, and I would add that I think with some of the new challenges, one could even make the case that the need is greater, and I think we have got to live up to that challenge.

Finally, let me simply say on a personal note that I really do feel very honored to be part of this group. As I said earlier, it truly is impressive. I am so impressed by the commitment of all the people in this room, many of whom have believed in the CGIAR for 20 and 30 years.

My commitment is to try and serve you as best I can. I will do my utmost to sustain this Group's great tradition and achievements, and I am convinced that, working together, we can achieve our goals and at the end of the day, truly make a difference.

Thank you very much.

Chairman's Announcements

Introduction

Ladies and Gentlemen.

I now move on to the Chairman's Announcements. At this time, we welcome old and new friends, bid farewell to those who are moving on, record achievements and, inevitably, sometimes share the burden of sorrow as well.

Condolences

Robert Kerr Cunningham passed away on June 22, at age 77. He was a great supporter of the CGIAR, a believer in its mission, with many friends in this System. He served on the boards of IITA, IRRI, ISNAR, and WARDA. He was widely respected throughout the broader international agricultural development community.

Bichapu Gandamma, Peta Pentamma, Lalitha Ramdas, Mukkera Salamma, and Gulli Suguna lost their lives when flash floods swept through ICRISAT's Patancheru campus on August 23. All five women were temporary farm workers at the Center.

We lost David Bell on September 6. He was 81. We mourn his loss, but we celebrate the abundance of his life as well. He was a dedicated pioneer and leader, whose contribution to creating and nurturing the CG can never be forgotten. He was active from both USAID and the Ford Foundation. Many of the practices now in place to nurture high quality science at the Centers flowed from his inspiration. His intellectual vigor, his organizing drive, and his profound sense of caring for the less fortunate are beacons to all of us.

I ask that our condolences to the families of all those whom we remember today, be recorded in the ICW2000 Summary of Proceedings.

As I continue with the rest of my announcements, I suggest that we hold our applause until the end.

Delegations and Visitors

Jacques Ekebil is here for the first time as the FAO cosponsor representative. A former IITA scientist, with strong roots in this community, he is well known to most of you. We are happy to have him back.

I welcome all heads of delegation who are here for the first time.

I would also recognize a number of distinguished visitors:

- Eung Long Jee, Administrator, Rural Development Administration, Korea;
- Carlos Luna Conroy, Vice Minister of Agriculture, Peru;
- D. S. Pradhan, Minister of State for Agriculture, India;
- Dora Rapold, Director, Technical Department, SDC, Switzerland;
- Abdulatif Al-Mugrin, Director of Agriculture and Trade, Office of the Secretary General, Gulf Cooperation Council; and
- Kenneth Quinn, Executive Director, World Food Prize Foundation.

Honor Roll

Ambassador Quinn's presence is a happy reminder that the Millennium World Food Prize was recently awarded to Evangelina Villegas and S. K. Vasal, both of CIMMYT, for developing and producing quality protein maize. Evangelina is the first woman to receive the World Food Prize. Their work represents people-centered science at its best, providing better nutrition while fostering economic growth among the world's poor. We honor them for their initiative, their dedication, and their success in overcoming long scientific odds. Six other World Food Prize laureates have been associated with the CGIAR. I'm sure that other CGIAR scientists will maintain the tradition.

Moving on to the award of another honor, I am pleased to announce that Nigeria's Order of the Officer of the Federal Republic has been conferred on Francis Idachaba, Principal Research Scientist, ISNAR, in the Millennium National Honors List issued by the President of Nigeria.

CGIAR Director

It gives me great pleasure to welcome Francisco Reifschneider, the Director-Designate of the CG. The Bank's formalities connected with Francisco's appointment are in their final stage, and I expect a separate statement from the Bank very soon, perhaps tomorrow.

Francisco was selected after an intensive and transparent search, led by the cosponsors. I thank everybody who participated in this process. I particularly thank the candidates, all of them of the highest caliber, for their interest in this position and in the mission of the CGIAR.

Francisco is at EMBRAPA, where he heads the Secretariat for International Co-operation. He has had extensive national and international experience, collaborating with FAO and the World Bank, and with several national institutes outside Brazil. His distinguished career includes appointments as adjunct professor at Cornell and the University of Brasilia. His contributions to the development of agriculture earned him Brazil's highest award, the Frederico de M. Veiga Prize.

He has represented Brazil at the CGIAR, frequently as head of delegation, serves on the Consultative Council, and is Vice Chairman of CIFOR's board of trustees. He was directly engaged in planning and helping to manage the Mid-Term Meeting held in Brazil. His knowledge of the CGIAR has therefore been gained from many perspectives. I know you join me in extending your co-operation and good wishes to him as he prepares to take on the challenges of his new position.

Farewells

As we welcome Francisco, we say farewell to Alexander von der Osten who will be retiring next month. You have known Alexander much longer than I have. He has been with the CGIAR in many capacities – as Executive Secretary of TAC, as Director General of ISNAR, and as Executive Secretary of the CG, a position he has held for 11 years. In the brief period that I have known him I have been impressed by his integrity, his commitment to all that this System stands for, and his helpfulness. All of us wish you and your family well, Alexander, on whatever path you take in the future.

We say farewell, too, to Roberto Lenton who was the Director General of IIMI, before he began his term as the UNDP cosponsor representative. IIMI, I should add, became IWMI in August, when the name change was formally approved by the Parliament of Sri Lanka. Roberto was at the helm of IIMI in very trying times. He laid the foundation for a strong institute. He has been active and effective, as UNDP's cosponsor representative. From early next year, Roberto will be the Executive Director for international programs at Columbia University's International Research Institute for Climate Prediction. Good luck, Roberto.

For three board chairs, this is their last ICW in that capacity: Wally Falcon (CIMMYT), Rudy Rabbinge (IRRI), and Ragnild Sohlberg (ICRISAT). Their influence has been strong within the Centers they led, but far beyond that as well. I thank them for giving of their time, and sharing their wisdom with us. I am sure we will see more of them in the future.

We recognized Frank Rijsberman as DG-designate of IWMI at Dresden. He has since assumed duties.

Per Pinstrup-Andersen is due to end his term as CDC Chair. He has been an active chairman at a critical time. I thank him for all that he has done, and for his help as I began my chairmanship. He will be succeeded by Hank Fitzhugh

We are losing Roger Rowe, who retires in January from his position as Deputy Director General of ICLARM. He thus completes a distinguished career as research scientist and corporate manager within the CGIAR System, having served five Centers since 1973, all at senior level and often under difficult circumstances.

Finally, we say farewell to two TAC members Magdy Madkour and Cyrus Ndiritu, whose terms have ended. I thank them for their important contribution to the work done by TAC.

Let us now have a round of applause to honor all I have mentioned.

Exhibit

I have one more announcement. The CGIAR-Future Harvest exhibit in the atrium of this building will be formally opened at the beginning of today's lunch break.

Adoption of Agenda

Our next item of business is to adopt the ICW2000 agenda. Can we go ahead and adopt the draft agenda that has been with you for some time?

Charting the Future of the CGIAR

The key issues on the table at ICW2000 were the organizational and structural changes required to fulfil the new CGIAR vision as well as to ensure the effectiveness of all components of the CGIAR System. Studies and papers produced by the Synthesis Group, Technical Advisory Committee, Finance Committee, Center Directors Committee, Committee of Board Chairs, FARA, EIARD, and other groups and individuals provided valuable inputs to the deliberations. The Group heard presentations from TAC Chair Emil Javier, Alex McCalla, as chairman of the working group looking at long term financing issues, and Andrew Bennett, chairman of the Synthesis Group.

The TAC Vision and Strategy paper was adopted at MTM2000. Mr. Javier reported on the revised version, which was adapted to incorporate comments and suggestions made at Dresden and thereafter. The paper articulates a new vision—"a food secure world for all"—and seven planks that form its core (poverty alleviation, modern science, priority to South Asia and Sub-Saharan Africa, regional approaches to research planning, integration of CGIAR activities with partners in developing regions, adoption of a task force approach, and service as a catalyst within the global agricultural research system). Mr. Javier emphasized that the CGIAR's new focus on regional planning and priority-setting in the context of a global agenda was a profound shift and would be one of the most difficult challenges facing the CGIAR.

Mr. McCalla's presentation focused on the recommendations of the working group on long term financing. The report proposes a three-tier strategy of stabilizing ODA contributions, increasing financial contributions from the South, and attracting non-traditional (i.e. private sector and philanthropy) support. The working group recommended that implementation of the strategy should build on the initial work of the Future Harvest public awareness group. Specifically, the implementation program proposes recasting the image of the CGIAR as a vital relevant entity; consolidating and rationalizing the majority of public awareness and information functions; transforming Future Harvest so that it can take the lead in developing a unified message and image for the CGIAR; and creating a coordinated "corporate" strategy in public awareness and resource mobilization.

At MTM2000, Members agreed on a process by which stakeholders would review and suggest possible organizational and structural changes to fulfill the new CGIAR vision. Caucuses of CGIAR Members and CGIAR committees were involved. An electronic conference also ensured broad participation of stakeholders. A Synthesis Group was convened by the Oversight Committee to sift

through the options emerging from the process. Mr. Bennett reported the recommendations of the Synthesis Group in four categories of proposals for discussion at ICW2000:

- Agenda setting with a regional emphasis;
- A federal model for the CGIAR;
- Other aspects of CGIAR governance;
- Financial matters.

The Synthesis Group also flagged the following issues for consideration at ICW2000:

- Primacy of shareholders in decision making;
- Location, design, and leanness of a possible new central structure and its accountability to and linkage with the CGIAR, including the chairman;
- Options for obtaining independent technical advice;
- Opportunities for revitalizing modalities for stable funding; and
- Composition, mandate, and timeframe for action of a Change Management Team.

The Group discussed the Synthesis Group's report in plenary and executive sessions, then organized itself into four working groups to enhance more focused discussion and allow diverse viewpoints. The four working groups—on *Setting the CGIAR's Research Agenda; the Role, Responsibility and Accountability of a Possible CGIAR Federation; Streamlining the CGIAR's Governance*, and *Money Matters, Building Stable Future Finances*—met in open sessions, with others attending ICW2000 freely participating. The working groups reported their comments in plenary where there was further discussion by the Group.

There was strong agreement that the CGIAR must be re-launched, building on the existing strengths of the System. Discussions covered the CGIAR's research agenda, priority setting and the inclusion of regional actors; the roles, responsibilities, and accountability of a possible CGIAR federation; streamlining the CGIAR's governance; and building stable future finance. At mid-point in the meeting, the Chairman offered a paper on next steps outlining agreed principles, action points, possible quick wins, and a change management process, and providing the basis for how the change management strategy can be implemented.

The Group reached consensus on two sets of action points. First, actions that will provide quick wins, and second, actions with a medium- or long-term perspective. These are summarized in the following Chairman's Paper: Guidelines for Next Steps which evolved out of the discussions at ICW.

Chairman's Paper: Guidelines for Next Steps

Introduction

There is a strong sentiment for change in the CGIAR. All components of the System are agreed that the CGIAR must be re-launched, and that it must be clearly seen to be changing in both form and function. In doing so, we will be building on the existing strengths of the System.

The studies and papers produced by the Synthesis Group, TAC, FC, CDC/CBC, FARA, EIARD, and other groups and individuals provided invaluable inputs to our deliberations. The rich substance of these papers compelled us to be engaged in truly productive discussions.

As promised, I have prepared a Chairman's Paper that provides a draft summary of where we are at, and what we can now do, based on the emerging consensus, to move the process forward. A first draft of this paper was discussed initially at the executive session of CGIAR members. This paper summarizes our understanding of the principles at work, outlines the changes we can make expeditiously, and sets out a process to take us forward to MTM2001.

I am gratified by the commitment of all ICW participants to work at creating acceptable change. I am confident that this spirit will prevail beyond ICW2000, because we all know that unless we remobilize and reorganize ourselves, we will be unable to cope with the daunting global challenges that confront us.

Agreed Principles

Comments made in plenary, and reports from the working groups that met at ICW2000 indicate that there is broad agreement on the following principles as the basis for change.

Research Agenda/Priority Setting

- The CGIAR would benefit from a bottom-up agenda setting process.
- Regional research agendas have two components: a component that defines priorities for the region as a whole, regardless of who addresses the problems; and a component that defines the CGIAR's role within that broader regional agenda. The former is created through a process that involves national and regional structures—including international organizations, regional and sub-regional fora and civil society institutions—taking ownership. TAC and the centers can help facilitate these processes through technical inputs. The latter needs to be defined by CGIAR bodies, such as centers and TAC, taking into account the priorities outlined in the broader regional agenda, and in consultation with other relevant bodies.
- As a producer of global public goods, the CGIAR would take responsibility for translating regional priorities into a global research agenda. TAC should work in partnership with other organizations such as GFAR, centers, and NARS.

Organizational Structure and Governance

- The CGIAR should learn from its past experiences in structural change and consolidation.
- All organizational components are inter-connected, and cannot be considered in isolation: change should be based on a holistic approach.
- The CGIAR will gain from greater cohesion, integration and cooperation among its components, but the form and functions of possible structures need to be defined with precision and clarity.
- The CGIAR needs a clear, simple and transparent decision-making process. Also it should better distinguish consultation processes from executive decision-making and implementation.
- Change should not stifle decisions and action by creating a new layer or layers of bureaucracy. Any changes must lead to greater efficiency.
- The CGIAR should streamline its committee structure, and reduce the number of committees reporting to it.

- Independent and objective technical advice is a cornerstone of effective priority setting, as well as of peer reviews and of ensuring scientific excellence.
- The CGIAR notes that the centers they support have decided to be known as “*Future Harvest Centers*.”

Proposed System-level Mechanism

Forming a federation (as defined by the Synthesis Group) was not fully endorsed. However, members recognized that the goals of the federation model outlined in the Synthesis Group report are valid. On balance, they believe that an appropriately structured mechanism could offer opportunities for efficiency gains, strategic management, and increased cooperation across the System. There is a consensus that a greater level of clarity and precision is required on a specific organizational form that would foster greater cooperation among centers in a cost-effective manner. Members urge further work to address the following concerns and evaluate all options:

- organizational fit with other components of the System and the extent to which it provides complementary and/or supplementary functions;
- accountability to shareholders;
- the question of legal status;
- role, function and composition of a board;
- level and form of expected efficiency gains and cost reductions;
- specific functions of the federation;
- sources of funding;
- adherence to the principle of subsidiarity.

Stable Future Finance

- The CGIAR should increase its revenue over the long-term by:
 - sustained ODA support
 - increased Southern membership and contributions
 - non-traditional sources of funding.
- All components of the System must commit themselves to seeking efficiency gains.
- A new compact is required among members, and between members and centers, to adhere to norms that protect the interests of the System.
- Reforms should not be budget neutral, but should aim at allocating additional resources to research.
- New financial instruments and modalities should be explored to ensure increased and stable funding.
- The CGIAR should project a strong image as a successful public goods provider through an effective “marketing” and communications program.

Action Points

Points on which agreement was reached at ICW2000 include: (a) actions that will provide quick wins and (b) actions with a medium or long-term perspective.

Quick Wins

Decisions on the lines proposed below will yield quick wins, while at the same time laying the foundation for long-term gains.

- Encourage centers to proceed with program realignments on which there already is consensus. Members fully endorsed the current efforts by centers to work more closely with each other.
- The centers should also be encouraged to pool their common services, where there are obvious cost advantages.
- Support centers in their efforts to review the composition and procedures of their boards.
- Implement the bottom-up priority setting approach in at least one region as soon as possible, on an experimental basis, with the help of TAC and GFAR and in collaboration with existing national and regional institutions.
- Consider holding only one CGIAR meeting per year, i.e. eliminate the Mid-Term Meeting after the Durban MTM, and develop options for decision-making between meetings. Following ICW2001, meetings could be held on alternate years, one in a developing member country and the other in the US (at the World Bank), or in another developed member country.
- Initiate a low-cost means of keeping stakeholders informed and engaged between meetings through regular electronic communication (e.g., e-conferences, monthly e-newsletter, tele/video conferencing).
- Conduct meetings with greater efficiency: slim down the agenda, and set apart a day for decision-making. Prepare agenda items and draft decision memoranda prior to meetings and submit them to members normally three weeks in advance.
- Implement a coordinated effort in public awareness and resource mobilization.

Decisions on quick wins reached at ICW2000 should be implemented under the Chairman's guidance without delay.

Long-term Change

Further action is required on a number of issues that were discussed at ICW2000, but on which no consensus was reached. These include the nature of a System body and whether central support units should be consolidated. I am fully committed to working with members and centers on these issues, so that an action plan may be presented at MTM2001 for endorsement.

Another issue concerns long-term finance. I welcome the Finance Committee's efforts to evaluate new approaches to fund raising and to consider the potential of non-traditional sources of finance. I will continue consultations on options, programmatic funding, non-traditional support, and appropriate windows of opportunity for competition. Possible changes in financial modalities will need to be carefully considered with experts. I will ensure that our decisions in this area will be consistent with the strategic thrust of the contemplated changes in governance and organization.

Views contained in the papers that were prepared prior to ICW2000, or were expressed during discussions at ICW, will be the starting point of moving forward. The change process will lose momentum, however, unless it is carried forward between now and MTM2001.

Change Design and Management Process

The process would be carried forward from ICW00 through a *Change Design and Management Team* (CDMT) reporting to an *ad hoc* Steering Group. At ICW2000 the CGIAR empowered the Steering Group to coordinate the change process on its behalf through MTM2001.

The Steering Group (see box on page 21) would be headed by the CGIAR Chair and would include individuals who would bring perspectives from a cross section of the CGIAR:

- centers
- the Cosponsors
- members from Southern and transition economies
- largest contributors
- other OECD bilaterals
- other international and regional organizations
- partnership committees.

A 15-20 person Steering Group is envisaged. The Chairman would appoint the Group based on nominations from members and centers.

The CDMT would be charged to generate concrete proposals for improving the CGIAR's governance, organization and structure taking into account the principles agreed to at ICW2000. The Chairman would submit the team's report to MTM2001 with his recommendations on specific options and with an implementation plan.

The CDMT would have about 5-7 members and would be headed by an eminent outsider. The team would include outside experts in relevant fields in governance and management as well as experts inside the System (at the CGIAR Secretariat, TAC Secretariat or the centers). The Team would outsource parts of the work to consulting firms. The Chairman would appoint the Steering Group at ICW2000 in consultation with the CGIAR. He would appoint the CDMT as early as possible in consultation with the Steering Group. The CGIAR Secretariat would serve as the base for the effort and provide the necessary substantive and administrative support. In addition, the Chair will assign a CGIAR Secretariat staff member to act as an internal communications officer, so as to ensure that all CGIAR members and stakeholders are kept fully informed on all aspects of the work in progress.

The CDMT would be charged with the following deliverables by MTM2001.

- **A restructuring action plan for the entire CGIAR System with a clear rationale for program integration and/or consolidation of centers (including analysis of options).**
- **A governance plan that streamlines CGIAR decision-making and clarifies the roles of all components (including Cosponsors, the Consultative Council and other committees) and brings net efficiency gains.**

- **A business plan for**
 - **increasing efficiency in the provision of common services;**
 - **coordinating system-wide programmatic activities; and,**
 - **reducing center and System overheads in order to transfer more resources to research.**

I submit these thoughts as my reading of the views expressed at ICW2000, so that we can move forward with deliberate speed.

Steering Group Members

Andrew J. Bennett
Chair, Oversight Committee

Ministry of Agriculture and Land Affairs
South Africa

R.N. Sam Dryden
Chair, Private Sector Committee

Kurt Johannes Peters
Chair of the Board of Trustees, ICLARM

H-Jochen De Haas
Head, Ref 414
Agriculture and Rural Development Division
Federal Ministry of Economic Cooperation
and Development (BMZ), Germany

Per Pinstруп-Andersen
Director General, IFPRI

Jacques P. Eckebil
Director
Sustainable Development Department, FAO

Eliseo R. Ponce
Director, Bureau of Agriculture Research
Department of Agriculture
Philippines

Hank Fitzhugh
Director General, ILRI

Francisco Jose Becker Reifschneider
Head, Secretariat for International Cooperation
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Ian Johnson
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Robert L. Thompson
Director, RDV, The World Bank

Tetsushi Kondo
Assistant Director
Economic Cooperation Bureau
Ministry of Foreign Affairs, Japan

Ann Waters-Bayer
Co-Chair, NGO Committee

Bongiwe Njobe-Mbuli
Director General, Department of Agriculture

Longyue Zhao
Deputy Director General
Department of International Cooperation
Ministry of Agriculture, China

Frontier Science, Global Public Goods, and the CGIAR: An Issues Seminar

Since its inception in 1971, the CGIAR has been at the forefront of international efforts to promote agricultural development as a means to fighting poverty, hunger and environmental degradation. Serving as catalysts for international development cooperation, CGIAR scientists have played a unique role as innovators and providers of improved farming technologies that fulfill the criteria of “global public goods,” i.e. technologies that depend on collective actions and provide shared benefits.

CGIAR members have supported Centers in their efforts to conduct research that produces international public goods as a contribution to fighting global hunger and poverty. The success of the CGIAR as a producer of public goods is widely acknowledged. The efforts of the CGIAR to generate knowledge essential for making basic food crops more productive, improving the health of livestock, developing new techniques to better manage natural resources in economically fragile areas, and offering advice to improve agricultural and trade policies, all in the global fight against poverty have been and continue to be recognized.

Recent developments—globalization, expansion of trade, and the revolutions in biological sciences, information and communication technologies—are creating new opportunities for knowledge-sharing and offer the hope of accelerating the fight against age-old problems of hunger, malnutrition, and degradation of the earth’s patrimony. However, the continued production of global goods is challenged by a number of developments including the resurgence of the private sector, the expansion of patents, emphasis on intellectual property rights, and the emergence of an international regime that could hamper the free flow of germplasm. The impact of these and related issues on the effectiveness of the CGIAR, the lessons to be drawn from the experience of the Centers, and foreseeable future trends were explored in a special “issues seminar” organized on October 23, 2000, at the start of the CGIAR’s International Centers Week 2000.

Mr. James D. Wolfensohn, President of the World Bank, opened the meeting by making an impassioned plea for the continuing need for international cooperation for development in the new millennium. “I have been associated with the CGIAR since my days with the Rockefeller Foundation in the early 1970s,” said Wolfensohn. “I am particularly pleased that the fledgling partnership that I saw first-hand, at work in the corn fields of Mexico, has stood the test of time. The Bank is pleased to be a strong supporter of the CGIAR whose efforts are central to the rural and agricultural issues. It is an important element in the global equation relating to global poverty.” Today, every dollar the Bank contributes to CGIAR is matched by six dollars of support from other members.

Current debate in development circles is focusing on the provision and financing of global public goods. In a keynote speech, Jeffrey Sachs of Harvard University, spoke about the “ecologies of development,” applauding the CGIAR’s role in promoting international development and referring to it as a “global treasure, not just a global public good.” Sachs’ basic premise was that the difference between developed and developing countries was one of geography, and of knowledge. He noted that temperate and tropical economies face monumentally different challenges in every core area of human life, but two of the prominent core areas are agriculture and human health.

To bolster his argument, Sachs noted that the burden of infectious diseases is overwhelmingly borne by tropical countries. Tropical diseases such as malaria, onchocerciasis and schistosomiasis, are all deeply rooted in ecology. The average resident has to contend with 300 bites by malaria-ridden mosquitoes, with profound consequences for health, the ability to participate in the labor market, and the ability to be effective in the physical drudgery associated with agricultural tasks.

In the area of human health, Sachs noted that global investments in health R&D spending were in the order of \$56 billion per year, and that perhaps less than 10 percent, possibly 1 percent, is truly focused on tropical diseases. He lamented that there was precious little transfer of technology between the two ecological zones. He concluded by noting that international public goods have been in too small supply for the past 30 years, and a large investment in knowledge is required to deal with these challenges. He noted that never in modern history has the timing been more opportune. The world has achieved the largest financial and intellectual capital gains. He felt that the time is ripe to mobilize human knowledge for the underprivileged.

A second session, chaired by Motoo Kusakabe, World Bank Vice President for Resource Mobilization and Cofinancing, explored the CGIAR's role as an instrument for global public goods. In his opening remarks, Mr. Kusakabe that there has been much debate recently about the role of global public goods in the process of development and poverty reduction, but the issue of how to pay for global public goods has not received much attention. The increase in the number of global and regional programs competing for funding has obvious implications for the CGIAR.

He called for action in two areas:

- A deeper understanding of the constraints and opportunities that govern the production of different kinds of public goods. When the CGIAR was created in 1971, most agricultural research was done by the public sector, but in recent years private agricultural research has dramatically increased, building on advances in biotechnology. What are the possibilities for moving from public sector "push" to the "pulling in" of private resources through innovative public-private partnerships as a means to strengthen the financial basis of CGIAR?
- The need to prioritize between and within global and regional programs, given stagnant ODA. The case for the complementary role of specific kinds of international agricultural research must be made explicitly and updated as markets, technologies, and other conditions change. The case must be made both to sustain the interest of donors and to involve a larger number of developing countries.

The session featured presentations by Per Pinstrup-Andersen, Director General of IFPRI, Alberto Duque Portugal, Head of EMBRAPA, Brazil's national agricultural research corporation (presenting a public sector view), Ann Waters-Bayer, Chairman of the CGIAR NGO Committee (presenting civil society perspectives), and Sam Dryden, Chair of the CGIAR Private Sector Committee (on behalf of the private sector).

Mr. Pinstrup-Andersen focused on the CGIAR's future role as an instrument for the creation of global public goods. A serious problems is the lack of global institutions that produce various global public goods. As far as international agricultural research, the CGIAR, NARs, and advanced research institutes together provide an effective institutional framework to ensure public goods production for the poor.

Both industrialized and developing countries stand to gain from increased agricultural research which produces global public goods. In developing countries where the technology is applied, both producers and consumers are likely to benefit. In industrialized nations, consumers benefit from lower food prices, and these benefits could increase with increasing globalization and trade liberalization. Industrialized countries also benefit from the use of the improved technology in their own agriculture, from increasing exports to developing countries, and from environmental improvements including the impact of carbon sequestration and biodiversity. If CGIAR research is effectively focused on reducing poverty in developing countries, poor people will continue to gain the most from the system's strong commitment to the continued production of global public goods in the future.

Mr. Portugal emphasized that the CGIAR is a key public sector actor because of its contributions to NARS and to a fairer, technology marketplace. He noted three important issues for CGIAR:

- Generation of global public goods and national public goods requires private sector participation to bridge the gap. The CGIAR should view IPR management as an important and strategic issue.
- Research on global public goods must be focused and time-bound.
- Benchmarking is essential to guide investors; this should include results evaluation, cost/benefit evaluation, accountability, even outsourcing.

Mr. Portugal concluded that CGIAR should continue to be a generator of good science and technology, and a problem-solver. CGIAR is part of the international agricultural system and must integrate its work with NARS, including NARIs, universities, NGOs, cooperatives, unions, associations, the private sector, and others.

Ms. Waters-Bayer stressed that the work of publicly funded agricultural research institutes should benefit the poor farmers, the semi-subsistence systems, the marginal and remote areas, and the orphan crops that are not of interest to the private sector. Public research goods go beyond new technologies and methods and should include institutions and information that can help smallholders better cope with and have more influence on conditions that impact on their farming. Here, public bodies still need to do considerable research on socio-economic, institutional, legal and policy issues in support of the disadvantaged and to make the results known.

The results of agricultural research should lead to scientific products that are available to all. Those which can be commercialized -- which could lead to patents, restrictions, and additional costs for the rights to use them -- should be protected by scientists through publication. Ways must be sought to protect small-scale farmers from being robbed of the results of their own experimentation and innovation. Civil society organizations have an important role to play in ensuring that public agricultural research for the well-being of humankind is safeguarded.

Mr. Dryden presented the private sector perspective. He noted that the private sector serves the public good -- it is part of society, and as economies develop with increased purchasing power, the private sector seeks to fill a role in serving the public good and creating added value. The private sector includes responsible corporate citizens serving society and shareholders, and it evolves with society's standards of the public good -- for example, legislated environmental regulations.

Given the changing nature of genetically improved goods, there are two seemingly irreconcilable concepts -- ownership vs. free availability. These are complex, multidimensional issues and, in that

context, the private sector is willing to enter into a dialogue on a new "social contract." The private sector should focus on its broader social obligations and the public sector should recognize private sector rights of ownership and needs for stewardship control. He identified three basic questions:

- Strategically, what is the vision of public goods as related to improved germplasm?
- Politically, how do we ensure the delivery of improved products for the public good?
- Functionally, how do the public and private sector develop improved germplasm utilizing the most modern tools and traits available to meet the needs of particular constituents?

Chairman Johnson concluded the seminar by highlighting the importance of sustainable development to meet the global challenges of caring for the earth today, but also to leave the world a better place for our children and their children. Economic growth must preserve the capacity of physical, ecological and economic systems to carry improvements into the future, and institutions such as the CGIAR will have a vital role in meeting the daunting development challenges.

The current debate on the provision and financing of public goods is extremely important for the future of international development cooperation. Whether it is producing new, higher yielding strains of corn or rice that feed the poor, controlling communicable diseases such as malaria, tuberculosis, or HIV/AIDS, protecting the patrimony of the earth's environmental resources, or even bridging the modern-day digital divide, global collective actions that generate benefits for all will always be needed.

Centers' Forum on Frontier Science

The focal point of the ICW2000 Centers Forum was "Frontier Science, Global Public Goods, and the CGIAR," with a combined focus on science and the impact of research. All sixteen centers made presentations.

Building the Scientific Foundation to Control Whiteflies and Gemini Viruses in the Tropics

Pamela Anderson

Coordinator, CIAT

Tropical farming, by definition, is a risky enterprise. Small holder farmers have to contend with a range of foes—biotic and abiotic stresses—that can impact yields, livelihoods, and families. Whiteflies, one of the major foes, have been the cause of enormous losses for tropical communities in Africa, Asia, and Latin America.

In terms of identifying the foe, there are 1,200 species of whiteflies, but only a dozen cause economic losses. This pest lays havoc to a broad array of food security crops (beans, cassava and sweet potatoes) as well as horticultural crops (tomatoes, peppers, eggplant, squash, melon, watermelon, cabbage, broccoli, okra, cotton, sesame). The most serious pest, the sweet potato whitefly, is present throughout the tropics, reproduces on over 500 plants, and transmits more than 90 viruses. Tackling whiteflies is an enormous scientific and development challenge.

CIAT played a lead role in seeking sustainable, knowledge-based, integrated pest management solutions for the whitefly problem. It is a triumph of Systemwide approaches to tackling particular problems, and we were able to strike a balance between a global, integrated research effort and a series of regionally-based, problem-focused subprojects. To our satisfaction, this balance is working effectively.

The project "Sustainable Integrated Management of Whiteflies as Pests and Vectors of Plant Viruses in the Tropics" was born in 1997. Given the range and geographic spread of the problem, responsibilities were shared by three Centers (CIAT, CIP, and IITA) and two, non-CGIAR Centers (ICIPE and AVRDC). More importantly, this global-regional effort had strong participation by 30 national agricultural research systems (NARS).

One of the most successful examples of collective effort to control the whitefly was when a pandemic struck in Eastern Africa. Field teams were mobilized in Kenya, Tanzania, and Uganda, and in the course of a few months, they were able to map and define the moving front of this severe epidemic. Based on this knowledge, IITA's elite lines of resistant cassava were deployed to protect food security for the vulnerable populations in some of the poorest parts of Africa. The value of this crisis mitigation effort is estimated at \$14 million. This success elevates the dialogue about transaction costs in Systemwide projects, but also provides sharp focus on the benefits that accrue from such projects. Some of our findings were counter-intuitive: *bemisia afer* is one of the most important species ravaging cassava in Malawi and Madagascar, not *bemisia tabaci*.

In terms of frontier science, we have used PCR RAPD technique, and have moved on to a PCR SCAR technique that is much cleaner and easier to use. Our intention is that in one year's time we can begin to get these techniques back into the national programs so that the monitoring effort can be done locally, using local resources. In terms of next steps, we have identified a series of critical "hot spots" for basic research on pest and disease dynamics. This project is very much in line with the vision, goal, mission, and spirit of the new CGIAR focused on public goods.

Understanding Complex Forestry Systems: Role of CIFOR

Jeffrey Sayer
Director General, CIFOR

CIFOR's research looks at forests from the point of view of poor people. Forests are an extraordinary resource, balancing the needs of people with that of nature and ensuring the sustainability of this process is key. Our work seeks to enhance the benefits of sustainable forestry systems so that they benefit the poor and the global environment.

Take the example of Kalimantan, which was identified by the World Resources Institute as one of the world's frontier forests. It is one of Asia's largest undisturbed, intact natural forests and has been designated as having "highest global priority for forest conservation." It is a unique ecosystem, and encapsulates the gamut of challenges CIFOR faces in its work: conservation of biodiversity, maintenance of indigenous cultures, interaction between complex biological communities and ecosystem services and processes, carbon sequestration, and the potential to contribute to long-term economic growth through improved stewardship.

By positioning ourselves at the outer edge of all that is going on in Kalimantan, CIFOR found that solutions would depend on interdisciplinary approaches and would necessarily involve a broad

range of national, regional, and international partners. Our research program is designed to vertically integrate research to solve important problems at the forest frontier. The issue of global public goods is front and center of all that is happening in Kalimantan.

Logging is one of the most serious threats that the Kalimantan area is facing. Constraints that limit sustainable forest management range from insufficient training of chain saw operators, to conflicts between local stakeholders, to national policies that encourage inefficient forest management practices. CIFOR's response has been to look at these problems on varying scales. We quickly discovered that although Kalimantan was a very heavily logged forest and represented environmental damage from logging, on a medium to large scale, the forests can recover from this damage quickly.

New tools are being developed to aid natural resource management. One is "Criteria and Indicators" aimed at guiding the management of forests toward sustainability. CIFOR scientists have produced a "Criteria and Indicators Tool Box" that has been very well received. It has broad applications, and marks a major conceptual breakthrough rejecting the "one size fits all" view of forestry. The materials to facilitate the design and adoption of the criteria and indicators approach are being used so well in Kalimantan.

CIFOR's approach has relied on management changes that are adaptive, and allow us to better manage the whole System in a way that rationalizes all the tradeoffs between different stakeholders. The issue of 'adaptiveness' is front and center, simply because of the uncertainties in current management approaches and those in the future.

At CIFOR we understand that the science of forestry management is still in its infancy, and ever changing. We are working to ensure that with the right quality and amount of information, a broad range of stakeholders, including policy makers, the private sector, forest producers and manufacturers, and the consumers can manage the forests responsibly, and also meet the needs of the poor.

New Science for New Opportunities
Timothy G. Reeves
Director General, CIMMYT

The new science can be used anywhere along the research paradigm that CIMMYT and, indeed, the whole CGIAR System uses. We call it the Germplasm (G) x Environment (E) x Management (M) and People (P) paradigm. We apply this paradigm to all aspects of maize and wheat systems, keeping in mind that our research effort has to focus on the needs of people, and contribute to their well-being.

The role of genotypes has, and will remain, critical to this area of research. Why genotypes? Because they represent the easiest "adoptable" technology for resource-poor farmers. Two examples—the development of apomictic maize, and halting the ravages of fusarium head blight in wheat—illustrate how this science is helping to target poor farmers.

Apomictic maize—the asexual reproduction of plants through seeds—is cutting edge science aimed at the needs of the resource poor. Plants produced through apomixis are identical to the mother plant, preventing the spread of plant types that one would normally obtain through normal crossing techniques. This technique is a much more efficient and effective way of fixing hybrid vigor or heterosis, and once the hybrid seed is made available, poor farmers are able to recycle that seed without having to buy new seed each year. The benefits for income streams, food security, and environmental

sustainability are obvious. In a move aimed at accelerating progress in this revolutionary area, CIMMYT and the French Institut de Recherche pour le Développement (IRD) formally entered into an important research collaboration with three seed companies: Pioneer Hi-Bred International, Groupe Limagrain, and Novartis Seeds. This Consortium on Apomixis is leading this work.

Fusarium head blight (FHB) on wheat is caused by a number of species of the Fusarium fungus. Losses to FHB have surpassed one billion dollars and one million tons of wheat in large wheat-producing countries. It is a unique disease, because it renders the grain completely unusable for human or livestock consumption. Fungicides provide inadequate protection and are not environmentally and socially sustainable. To address this problem, we are searching for minor additive genes that provide partial resistance, and build upon that success. It is painstaking work, but we have made real progress. Several CIMMYT wheats are resistant not only to FHB, but also have resistance to a range of other diseases. It is noteworthy that we offer a testing service where the material is subject to extremes of causal conditions. Material emerging from this regimen is suitable for most, if not all, parts of the world.

The revolution in the biological sciences and informatics is creating new opportunities for improving the livelihoods of the rural poor. Old problems, considered intractable up until now, can be addressed using the new science for maximum impact.

New Technologies for Understanding and Using Potato Genetic Diversity

Wanda Collins

Deputy Director General (Research), CIP

Roots and tubers (R&T) will be many things to many people by 2020. Their adaptation to marginal environments, their contribution to household food security, and their great flexibility in mixed farming systems make them an important component of strategies to help improve the welfare of the rural poor. R&T crops exhibit great genetic diversity. For example, there are over 200 species of potatoes, of which more than half are wild species. Among these, many species may have valuable hidden characteristics that can be invaluable in breeding programs. Production of R&T crops is growing steadily—average of 3% per year—so it will be essential to make better use of existing diversity. This is especially true when we begin to look at potato production in changing climatic conditions, particularly in subsistence farming.

CIP science is using a range of new technologies made available by the new science to understand and use potato genetic diversity. They range from simple molecular analyses, to moving genes between plant species, to looking systematically at potato diversity using satellites. Our focus is on site specificity, allowing us to address those problems that could not be researched before due to technological or financial constraints.

Phytophthora infestans causes late blight disease in potatoes, resulting in \$3 billion in losses every year in the developing countries. CIP is moving rapidly to address this constraint, so that we can quickly deliver the results to national partners and help them apply and adapt these tools. This includes building the capacity of national programs to use these tools and adapt them for a wider range of potato problems. All indications are that the problem will get worse as production increases in developing countries, unless we find durable resistance. CIP's strategy is to fight late blight disease by providing farmers and extensionists in national agricultural programs with control practices that lend themselves to being customized for local conditions and applications. CIP scientists are now branching

out to other species where we know there is resistance to late blight, but we know virtually nothing about it. We can now begin to unlock this diversity, and put it to use for the benefit of poor potato farmers the world over.

Another example of new technology is DIVA, or DIVERsity Analysis, a software package, which CIP has made available for public use through the Internet. DIVA is designed to work with genebank databases, and allows for better analysis of geographic or spatial dimensions of genetic diversity. DIVA helps NARS in using existing information on ex-situ genetic resource collections with a view toward making the data more understandable and useable. While it cannot correct mistakes, it certainly helps flag data that appear suspicious, identify gaps, and help match wild species with traits. DIVA is still in the formative stages, but the combination of molecular and geographic diversity is giving us greater power to support sustainable potato production in developing countries. CIP is doing this research in partnership with CIAT, IITA, IPGRI, and IFPRI. This partnership contributes to achieving the full potential of R&T crops in the global food system.

New Science to Improve the Livelihoods of the Poor in Dry Areas

William Erskine

Associate Director General, ICARDA

ICARDA's research is focused on the needs of the one billion people who live in the dry areas. Poverty is pervasive, and 700 million people survive on less than \$2.00 a day. Population growth rates are among the highest in the world, in some places as high as 3.6 percent per year. More than 70 percent of these people live in rural areas, and largely depend on agriculture for their livelihoods. Applying the CGIAR principles—the fundamental role of research, people-centered technologies, the application of new science, and greater outputs through partnerships—can help reduce poverty in these dry areas.

The region is beset by environmental challenges. In the dry areas, the fear and the scourge of the people, and the poor particularly, is that of drought. And in the last 1,000 years, the frequency of droughts has increased in the dry areas, and particularly in areas such as North Africa. And when one hears the prognosis coming out of the climate change modeling experiments, the problem is only slated to get worse.

ICARDA's research effort is mobilizing new science to tackle drought, and we are doing this by using knowledge, technology, and farmer participation. Currently, in the West Asia and North Africa region (WANA), there are no national monitoring systems for drought. ICARDA scientists have worked with partners in the national programs to develop drought indicators based on water balance, GIS, long-term weather data, and a 'spatial weather generator' to understand the potential of cereal production and the likely impacts of drought on yields, and to combine that information to produce a map that would depict the frequency of drought around flowering time, a crucial phase in the plant growth cycle.

As is expected, drought is one of the major abiotic stresses affecting agriculture in the dry areas. Here, ICARDA is using a two-pronged strategy: working on the genetic side, using conventional and non-conventional tools, and also improving the management of natural resources. By using this strategy, ICARDA scientists are able to capture the powerful synergies inherent in each approach.

On the crop improvement side of the equation, we are very interested in looking at ways in which to improve the plant's adaptation to stress. We are benefiting greatly from the large collection of

genetic resources available in ICARDA's genebanks. The most valuable are the land races and wild relatives of important WANA crops – barley, wheat, faba beans, lentils, chickpeas, forest legumes. Seventy percent of that collection is now geo-referenced so that the information lends itself to analysis using a combination of GIS techniques and climatic overlays. This strategy will be invaluable in addressing production constraints of barley, a key crop in the mixed farming systems of WANA.

In summary, ICARDA's holistic approach to looking at problems of agriculture in the dry areas depends on the new science, using an ecosystems approach that is being reinforced by the advances in information and communication technology, and the widespread use of participatory research methods.

Science in the Mekong River Basin: Poverty, Fish, and Floods

Meryl Williams

Director General, ICLARM

Tackling poverty and understanding how fish and floods can contribute to its alleviation is one of the greatest challenges for the peoples of the Mekong River Basin of Asia. It is a little known fact that the four countries of the Mekong Basin—Cambodia, Lao PDR, Vietnam, and Thailand—were ranked among the poorest in the world. Out of a total population of 155 million in the four Lower Mekong basin countries, 90 million people live directly within the watershed area. The basin has supported this large population and it has provided a vast natural resource that has been the primary basis of rural livelihoods. The intrinsic links between aquatic resources and human nutrition are evident in the basin where protein from aquatic resources makes up more than 50% of the total animal protein intake of local populations.

From ICLARM's perspective, concerned as we are about the role of aquatic resources in farming communities, it is important to note that the basin is home to an estimated 1,200 fish species. It is one of the three largest fish biodiversity areas in the world, with many of the species endemic to the region.

Over the past two decades, ICLARM has developed, in partnership with others, models that can be used to simulate the effects of fishing and other anthropogenic or biophysical interventions on productivity and the ecosystem. ICLARM's role is to raise knowledge and awareness of the crucial role aquatic habitats play in resource sustenance.

ICLARM's priority is the development of a model to describe and demonstrate risks to the sustainability of fisheries in the Mekong system. Our research has addressed the following broad objectives:

- Integration of aquatic resources and food security issues into inter-sectoral policy and management issues
- Enhancing the quality of life of the people by supporting environmentally sound development that will sustain and improve the values and functions of wetlands in the Mekong river basin

In conclusion, ICLARM's cutting-edge research in the Mekong River basin integrates scientific disciplines, seeks out collaborators who can contribute information and expertise for the common good, builds on strengths to provide solutions to ecosystem sustainability threatened by development,

and develops tools that stakeholders can use and understand. ICLARM scientists strive to ensure that development will result in the equitable distribution of wealth, and where development will not be seen to benefit one sector of society at the expense of the other. ICLARM's research meets the criteria of international global public goods fully.

Agroforestry in the Service of the Poor **Markus Walsh, ICRAF**

The challenges of agricultural development in Africa are multifaceted, but it is clear that agroforestry is one of the most important options that can successfully address the challenges of food security, poverty reduction, and environmental protection.

One of ICRAF's primary focuses is to look at the challenges facing improved management of natural resources, of which soil is the most important. Currently, about 40% of the world's arable land, much of it in developing countries, suffers from soil degradation. Specific soil problems vary from place to place, but thanks to ICRAF's efforts, a fast, inexpensive and reliable method for analyzing soil problems has been developed. The added benefit is that it could help policymakers concentrate limited resources for land management in areas where it is most needed.

Studying soil degradation has always been a challenge for scientists. It is intensive work, and even for fairly low-resolution soil surveys, anywhere between 10-50 individual soil samples per square kilometer are needed. To address this challenge, ICRAF researchers are using a technique called "diffused reflectance spectrometry" (DRS), which helps to measure soil quality right in the field quickly and inexpensively. DRS can process between 350-500 soil samples a day under laboratory conditions, and the results are available instantaneously. Depending on the soil sampling conditions, scientists are able to collect over 1,000 geo-referenced reflectance measurements per day under field conditions, when travel between sites is minimized.

DRS is opening up new avenues in looking at large-scale soil degradation problems. ICRAF scientists have used a combination of spectrometry and satellite imagery to understand the degradation of the land surrounding Lake Victoria. In 1999, they discovered massive amounts of sediment in the lake. The combining of satellite imagery with on-the-ground spectrometry helped determine the source of sediment flows, especially the 'hot spots' – nutrient-rich areas that could be a future source of harmful sediment.

The synergies from high technology and quality data are helping to address serious soil degradation problems in Africa. Thanks to this technology, ICRAF scientists are able to advise local and regional land management agencies on the kinds of action—planting trees in riparian zones, for example—that would help prevent run-off and restore the viability of Lake Victoria.

In conclusion, there are three major implications of DRS technology. First, it can capture many different soil properties under a single measurement. Second, it allows detection of soil degradation problems before it is too late and mitigation is economically infeasible. Lastly, DRS helps to generate more qualitative information, at lower costs. At a time when there is growing appreciation for the role of forests in carbon sequestration, DRS technology could help to put money in farmers' pockets through the use of carbon credits and general enhancements in soil productivity.

Diversity Prospecting: The Gene Revolution
William Dar
Director General, ICRISAT

ICRISAT is exploring new avenues in the area of biotechnology and bioinformatics to prospect for genes that better utilize the rich resources available in our genebanks and plant breeding pools. Research on our mandate crops—sorghum, pearl millet, pigeonpea, chickpea and groundnut—is of direct concern for millions of poor farming families who eke out a precarious farming existence in the semi-arid tropics (SAT).

Sorghum is the fifth most important cereal crop grown in the semi-arid regions of the world. ICRISAT holds about 36,000 accessions of sorghum, and these have been systematically characterized to maintain and distinguish their identity with a view toward enhancing their utilization. In the new approach, we are learning to be more strategic at all stages of germplasm use and conservation: collection, gene discovery, and moving the genes into good agronomic backgrounds. In order to achieve this, we have developed a core collection of useful diversity in sorghum, and thanks to a productive partnership with CIRAD, France, we are measuring diversity in three ways: diversity for microsatellite SSR markers, diversity for morphological traits, and diversity for resistance to five major diseases affecting sorghum. This approach yields a “snapshot” of diversity, and avoids the need to create different core collections for different traits. This approach is very promising, and leads to the next step of identifying and ‘mining’ useful genes that can be deployed to increase yields and develop resistance to biotic and abiotic stresses.

Studies of genome mapping show that even in very different crops, many genes with similar functions appear to be located on homologous linkage groups. “Gene synteny” allows us to use gene maps of one particular crop to look for similar genes in other, less-studied crops, or vice versa. ICRISAT scientists have embarked on an exciting collaborative research program with their counterparts in Japan, and are researching the synteny between rice and sorghum. This allows rice researchers to find interesting genes across crops. The benefits in terms of speedy incorporation of useful genes in plant breeding material are enormous.

Our work rests on a strong platform of promoting public goods research, and we (as well as our collaborators) are posting genome maps and related gene sequencing data on the Internet to enable free and unhindered access. This is particularly important for enabling national programs to participate in the research. We have so far found 24 candidates for gene resistance across our five mandate crops. All of these sequences have been deposited in the GenBank database, and have been provided distinct accession numbers.

In summary, we are very excited about the potential of new frontier science techniques for diversity prospecting. As these techniques are refined and used more widely, we see great benefits to the poor. But this will require close partnerships and open sharing of information. ICRISAT is strategically poised to play a leadership role in bringing about such collaboration and ensuring a bright future for SAT farmers.

Market Reform and Poverty Alleviation in Sub-Saharan Africa

Mylene Kherallah

Research Fellow, IFPRI

At the beginning of the 21st century, Sub-Saharan Africa, is confronting a number of daunting problems: extensive hunger, malnutrition, poverty, resource degradation, and the spread of AIDS. Because the majority of the region's population remains dependent on agriculture for its livelihood, well-functioning and efficient markets will continue to play a key role in Sub-Saharan Africa's economic and social health.

The story of Roda, a small farmer, is instructive. She is a small-scale bean farmer, growing French beans as a cash crop, and hoping to use the income for meeting basic needs such as food, education, and clothing. Her product would be the envy of any supermarket in the developed world. Although Roda has access to the right kind of seeds, fertilizer, and pesticides, her dreams remained unfulfilled because she could not find a market to sell her produce. This shortcoming, is multiplied many times over in large parts of Sub-Saharan Africa, making it impossible for small-scale farmers to escape from the vise-like grip of pervasive poverty.

IFPRI's researchers have conducted an extensive review of research findings on agricultural market reforms in Sub-Saharan Africa. Overcoming existing constraints and building on what has already been achieved in this crucial area is the way forward, and IFPRI's reports to policymakers have centered around eight themes:

- Reforms were often partial and commonly reversed – lack of government commitment was a key factor;
- Reforms have increased competition and reduced marketing margins – the benefits to farmers include a greater share of the retail or export price, and for consumers, prices in many instances have declined;
- Grain markets remain risky, informal and cash-based – resulting in highly volatile cereal prices compared to other developing regions;
- Export crop production has responded more positively than food crop production – for example, it is more lucrative to use imported inputs on export crops as opposed to food crops;
- Fertilizer use has declined – a trend caused by the elimination of subsidies has caused fertilizer/crop price ratios to double, meaning that it is no longer profitable to apply fertilizer or use hybrid seeds for food crops such as maize;
- Access to extension and credit for inputs have declined – with deleterious effects for small farmers;
- Impact on crop yields has been negligible – many countries have experienced either marginal increases in crop yields or worse still, yield decreases; and
- Reforms have increased the income of small export growers, but have had mixed impact on poor farmers – the effects on remote farm households were most severe.

In summary, the new agenda for the development of markets in Sub-Saharan Africa requires a new role for governments. This will involve reducing government's role as a market participant and increasing its role as a market facilitator. Governments should provide the enabling environment in which the private sector can operate efficiently, but governments also need to support the institutions that are necessary to foster competitive, and farmer-friendly markets.

Science and Sustainable Resource Management

Lukas Brader
Director General, IITA

Sustainable management of natural resources represents one of the most critical agricultural research and development challenges facing Sub-Saharan Africa. IITA has a long history of collaborative research in this important region. These efforts have allowed us to develop a better understanding of the bush fallow systems prevalent in the region, and more importantly, their role in replenishing soil fertility. Furthermore, our research is directly focused on the Northern Guinea savanna of Western Africa, a region where we are addressing with confidence the challenges posed by the intensive cereal and legume-based cropping systems.

The region has a growing season of at least six months, and has high solar radiation and relatively low levels of pest and disease incidence. As such, the zone has good production potential for cereals and legume crops, provided that management practices can be developed for economically profitable and sustainable cropping systems.

Under the CGIAR's Ecoregional Program for the Humid and Sub-Humid Tropics, benchmark areas were established allowing the full characterization of socioeconomic and physical conditions. The region's agricultural practices are undergoing transformation. Maize has evolved from a subsistence crop to a major cash and food crop and currently occupies over 40 percent of the cultivated land. Over the last 10 years, soybean production has increased more than ten-fold, while sorghum production has continued to decline. In many instances, the land is now under permanent cropping.

However, the intensification of land use systems in the Northern Guinea savanna is facing increased abiotic and biotic pressures, of which soil fertility and control of *striga* are among the most important. Low levels of input use, particularly fertilizers, as well as unsuitable crop rotations have resulted in negative soil nutrient balances. Our response was to tap into our enhanced knowledge base to develop sustainable maize-legumes rotations whereby well-adapted varieties of soybean are used effectively for the replenishment of soil nutrients and organic matter. Take, for example, the development of so-called dual-purpose soybean and cowpea for the maize cropping system in the savanna. Varieties were developed that produce larger amounts of biomass while retaining their yield advantages, fixing higher amounts of nitrogen, and with tolerance to low phosphorus. The soybean lines that are now available produce 2.5 tons of grain, and between 2.5 and 3 tons of forage per hectare. Comparing the amount of nitrogen fixed by these improved materials shows positive nitrogen balance in maize rotations and significant increases in maize yields. The rates of return from the mixed cropping systems show that the gross income of farmers has increased by as much as 50 to 70 percent compared to sole-cropped maize.

Working with farmers in the benchmark areas has shown the environmental and economic benefits from these new cropping systems. We were fortunate to have the support of Sasakawa Global 2000, which is extensively involved in the introduction of new technologies to farmers in northern Nigeria. On the basis of our accumulated research results, we are now convinced that the future of sustainable agriculture in these zones lies in the use of intensified cropping systems based on the rotation of nitrogen-efficient and Striga-resistant cereals and dual-purpose grain legumes combined with the optimum use of inorganic and organic inputs.

**Functional Genomics:
Making the Livestock Revolution Work for the Poor**
Hank Fitzhugh
Director General, ILRI

The world is in the midst of a livestock revolution. Since 1983, consumption of meat and milk in developing countries has increased more than 50 percent. By the year 2020 consumption of meat and milk in developing countries will more than double from the levels today, and developing country farmers will have to gear up to meet the production challenge. These developments offer tremendous opportunities for resource-poor small holder farmers to generate more income, build livestock assets, improve nutrition, and raise their families out of poverty. But it also brings real challenges that will only be met if we bring the new science to bear on problems of livestock health, and combine nutrition and genetics to improve livestock productivity. The livestock revolution must work to meet the needs of the poor.

ILRI employs a broad range of the new sciences, the principal focus of which is functional genomics. Functional genomics is a scientific approach that seeks to identify and define the functions of genes, and uncover when and how genes work together to produce desirable traits. Genomic research at ILRI covers a wide spectrum, from plants to mammals to microbes. For example, our plant research primarily concentrates on the molecular characterization of the more than 13,000 accessions from 1,000 species of grasses and legumes that are available in ILRI genebanks. In addition, we are working with IITA and ICRISAT to characterize the genetic traits in food-feed crops such as cowpea, sorghum, and pearl millet. Of particular importance is ILRI's strategic and comparative advantage where we can conduct research within the quarantine restrictions and provisions of the Convention on Biological Diversity.

Our main focus is using genomics to spur livestock vaccine research, with implications for human health. East Coast Fever is a devastating disease that afflicts 2 cows every minute, and causes an estimated \$200 million in losses every year. More than 29 million cattle are at risk, and particularly susceptible are the improved dual-purpose crossbred dairy cattle that are important for market-oriented small holder dairy farming. Control measures are limited, costly, and generally depend on acaricides because this is a tick-borne disease. Therefore, ILRI scientists have concentrated their efforts on developing a sub-unit vaccine that will be simpler and cheaper to deliver, and carries no risk of disease transmission.

Our work on sequencing the *Theileria parva* genome is greatly facilitated by our collaboration with an advanced, not-for-profit institution, The Institute for Genomic Research (TIGR). One reason for TIGR's interest is that they are also working to sequence the genome of *Plasmodium falciparum*, which is a cousin of *T. parva*, and is the protozoan parasite that causes malaria. This work is moving forward with the expectation that there will be spillover benefits toward developing a malaria vaccine.

This promising work will help to ensure that livestock in Eastern and Southern Africa, and elsewhere, remain healthy, producing milk and meat products that sustain farmers and urban communities. Milk sales generate much needed income to pay for school fees so that healthy minds are able to realize their full potential. ILRI's research lies front and center of the sustainable livestock revolution.

**New Techniques for Managing Genetic Diversity as
an International Public Good**
Geoffrey Hawtin
Director General, IPGRI

The topic of biodiversity conservation is at the front and center of developmental debate. IPGRI is using some of the new techniques—the frontier science—to address our mission of conserving and promoting the use of genetic diversity as an international public good. These new techniques range from microsatellite kits to assess genetic diversity in food crops, to cryopreservation, and the use of relational databases in the Systemwide Information Network for Genetic Resources (SINGER).

Microsatellites are sections of DNA, usually up to 10 base pairs, that are repeated a large number of times in sequence and are found scattered through the genome. The number of repeats at any particular locus is a highly discriminatory polymorphism that allows for very clear and accurate fingerprinting. Microsatellites are also called “simple sequence repeats,” and “simple repetitive sequences.” They allow us to better understand the temporal and spatial structure of gene pools, which is essential for identifying areas for *in situ* conservation, and for targeting high potential areas for germplasm collection. In addition, microsatellites are useful in identifying parental materials for crossing where genetic distances can be assessed. A key aspect of this project is capacity building. IPGRI has a target of developing 50 kits, and once completed the kits will be very useful in the work on underutilized species.

Cryopreservation—the practice of conserving vegetatively propagated crops in extremely cold temperatures—is the best method for *ex situ* conservation of such species. These techniques are still in their infancy, and not sufficiently robust for broader application. IPGRI is working on using cryopreservation techniques for the preservation of the world’s largest collection of banana and plantain crops, which include 1,143 accessions drawn from 38 countries.

SINGER is the genetic resources information exchange network of the CGIAR, and a vital tool for helping us to better manage the in-trust collections under the FAO agreements. SINGER has information on over half-a-million accessions, and with the 15 fields available for common searching, it provides a gateway into the full range of data on collections maintained by the Centers. Over the past 18 months, a new, user-friendly “front end” has been developed which now makes it possible to link statistical analyses with GIS maps. SINGER’s particular strength is that it provides a uniform gateway through which scientists wanting information across the CGIAR System, in a transparent way, will be able to get that data, and in a similar format irrespective of the crop or the Center that is maintaining the data. SINGER is a tool that is undergoing constant improvement, and we have implemented extensive training programs so that Centers can make full use of this important resource.

Strategic Rice Research: Impossible Problems, Possible Solutions
Ren Wang
Deputy Director General (Research), IRRI

Rice is a staple food that feeds half the world. The recent development of vitamin A-enriched rice at the Swiss Institute of Technology was a good example of how frontier science can be mobilized to serve the food, nutrition, and health needs of large populations.

At IRRI, innovative rice research is helping to tackle the most pressing problem: that of increasing rice productivity. The challenges are formidable. By the year 2025, rice production in Asia must increase by 32 percent, and by 47 percent in South Asia. These production increases must come at a time when population pressure is relentless, there is growing concern about use of pesticides, and pest attacks are responsible for yield losses of 10 to 15 percent. Furthermore, all these challenges have to be met in unfavorable, fragile ecosystems where yield levels average only 2 tons per hectare.

Over the past decade, IRRI has successfully developed and used a range of biotechnology tools in tackling these problems. These approaches have included embryo rescue, anther culture, wild hybridization, marker-assisted breeding, transformation, and more recently, functional genomics. An important area of success in this effort has been our ability to utilize the enormous rice diversity available at IRRI's International Rice Genebank.

We have had remarkable successes. In Asia, four resistance genes to the devastating disease—bacterial blight—have been introduced in various combinations in locally-adapted rice varieties. The IRRI-based Asian Rice Biotechnology Network (ARBN) is facilitating the sharing of these elite lines across many political boundaries in Asia. In addition, IRRI scientists are using new tools and techniques to detect the drought-responsiveness of multiple rice genes simultaneously. At IRRI, we consider functional genomics to include three main components: genetic resources such as mutants, introgression lines, and mapping of populations. All three components are integrated through bioinformatics.

IRRI is unequivocally committed to ensuring that these research products and processes remain in the international public goods arena. Exciting times lie ahead, and we are grappling with the challenge of improving inefficiencies in rice photosynthesis. Our goal is to imitate nature and produce a rice plant with the superior photosynthetic capacity of maize. There is consensus that the C-4 synthetic pathway, like that found in the maize plant, can be moved to a C-3 photosynthetic pathway in rice. If successful, this would transform rice farming on an hitherto unprecedented scale.

In terms of tackling pest and disease problems, IRRI scientists are beginning to understand that diverse varieties can provide complementary disease resistance or other positive agronomic functions. For example, mixture of rice plant genotypes can help to reduce spread of diseases. In the immediate future, there will be a convergence of IRRI's work in genomics and biodiversity. The opportunities for frontier science to be mobilized in the fight against poverty, hunger, and environmental degradation are enormous, and I am pleased that IRRI will be at the forefront of these efforts.

Frontier Science: Does It Need Intellectual Property Protection? ***Stein Bie and Victoria Henson-Appollonio*** **ISNAR**

The issue of intellectual property protection goes to the heart of the CGIAR's agricultural research agenda and that of the larger international agricultural research community. It bridges both the biological side of our research mandate, as well as the physical aspects of frontier science. At the front and center of this discussion are the particular needs of tropical and small-holder agriculture.

ISNAR is playing a leadership role in this area, acting in concert with the Centers to ensure that the CGIAR understands its obligations in the area of intellectual property rights. To that end, ISNAR

is privileged to host the Central Advisory Service (CAS) on IPR set up by the Centers, to serve the needs of the Centers themselves and the NARS who are our primary clients.

IP involves assets that encompass an idea, or a concept, reduced to tangible form. IP is a broad term used to cover patents, designs, trademarks, plant breeders' rights, copyrights, and trade secrets. From the CGIAR's perspective, the three most important IPRs are patents, plant breeders' rights, and trade secrets. The first patent taken out by a CGIAR was in field machinery, when IRRI patented a simple machinery for rice cultivation to ensure its availability in the public domain. The CGIAR System has certain rules of engagement in relation to IPR. In addition, there are broad policy guidelines for the whole System laid down by the Genetic Resources Policy Committee, but it is important to note that every Center is an independent legal unit, and develops its own IP policies.

The Central Advisory Service began operations this year, and is developing intellectual property toolkits in collaboration with Centers. In order for CAS to be effective, we have to first understand which proprietary technologies are being used at the Centers and what sort of intellectual property assets are being generated by Center scientists. To help in this effort, an Invention Disclosure Form has been developed that will allow Centers to identify "assets" and help them develop guidelines for their use. It is a full service facility aimed at covering the gamut of issues relating to Center IP knowledge, including technical skills, knowledge management, negotiations, licenses and agreements. We know that NARS are very concerned about equitable access to frontier science, so we are building ISNAR's capabilities in this area.

Frontier science is more than biology, physics, and chemistry. It also encompasses the larger issues of organizational, management, and legal issues. Together with the Centers, CAS is building bilateral relations with global, sub-regional and national agricultural research institutions to guide us through a difficult IP maze. If the CAS did not exist, it would have to be invented.

**Water for Food and Environmental Security:
How Much Irrigation Do We Really Need?
Frank Rijsberman
*Director General, IWMI***

Water is a basic and dwindling production resource in agriculture. Therefore, how much irrigation we really need is an essential question, the importance of which was highlighted by UN Secretary General Kofi Annan when he called for a "Blue revolution in agriculture that focuses on increasing productivity per unit of water, more crop per drop."

IWMI is dealing with this vital issue of improving water management as frontier science. How much water do we need to achieve food security in 2025? Is it plus 17 percent, plus 6 percent, or even minus 10 percent? Charged as we are with the mission of ensuring food security and environmental protection, that is very much the question that needs to be answered by an innovative research agenda and collaborative partnerships. We must recognize that there is huge uncertainty between the plus 17 and the minus 10 percent figures, and frontier science should be mobilized to help answer that question.

Three scenarios need to be described. The first, "Business as Usual" means that if we do not change our policies, there will be a very limited increase in irrigated areas over the next 25 years. The second is a "Tech" scenario brought about by the coming together of technology, economics, and the

private sector. It focuses on private sector initiatives that drive R&D, and run the risk of exacerbating inequity. The third scenario, “Values and Lifestyles,” focuses on making water use more sustainable. The upshot is that if we start to take these issues into account seriously, it does not get any simpler nor does it get easier. The conflicting needs of agriculture, the environment, and humanity all require different philosophies and approaches. IWMI’s research must straddle this divide. TAC’s 2001 Financing Plan concluded that there is “a relative under-investment in water management research at a time when lack of access to fresh water is rapidly becoming a key constraint to global food production.” The challenge for IWMI is ingrained in this assessment.

IWMI’s efforts are helping to “reinvent” irrigation in the framework of sustainable management of land and water resources. IWMI is also reinventing irrigation for resource-poor farmers. The links between these issues and the overriding objective of reducing poverty are obvious and relevant for both IWMI’s and CGIAR’s research agenda. But neither IWMI nor the CGIAR can do this alone. We need governments to be engaged, civil society to be engaged, and also the technical specialists. Strategic investments will be key.

Rice for Life – A Life in Rice
Kanayo Nwanze
Director General, WARDA

WARDA’s focus is not simply on improving rice production in West Africa, although that is a major objective. We are equally concerned about the issue of livelihoods – the poor farmers who depend on rice cultivation for their existence. There are 20 million rice farmers in West Africa, mostly women. Increased productivity of rice helps to reduce poverty and crippling rice import bills.

In the past, WARDA has used the example of Bintu, a typical West African rice farmer. She depends on rice for food and income. But the agriculture that Bintu practiced was bypassed by the Green Revolution that was so successful in Asia. It is in this milieu that the story of her nephew, Mamadou, takes root and where his determination to ensure that the new technologies benefit the continent of Africa solidifies. Largely as a result of Mamadou’s scientific grit, a new rice strain was born.

Dubbed NERICA (for NEw RIce for AfriCA), the new rice combines the ruggedness of local African rice (*Oryza glaberrima*) species with the phenomenally high productivity traits of Asian rice (*Oryza sativa*) that was the mainstay of the Green Revolution.

NERICA rice is a ‘designer plant’ in the best sense of the term. A progeny of African-Asian crosses, NERICA owes its wide, droopy leaves that help smother weeds to African parentage. The important trait of high productivity is gained from the Asian rices, allowing NERICA panicles to hold up to 400 grains compared to the 75-100 grains that are the norm in African rice species. Further improvements in the plant’s architecture—longer panicles with forked branches, strong stems, and panicles that hold grain tightly and prevent shattering—allow the new rices to outyield others, and produce bountiful harvests with modest fertilization. The new rices mature 30 to 50 days earlier than traditional varieties, allowing farmers to grow extra crops of vegetables or legumes.

The development of NERICA was spurred by rapid advances in agricultural science. WARDA scientists overcame a series of disappointing failures when they succeeded in crossing the two species using a technique called “embryo rescue.” The new rice, the product of an ‘interspecific hybrid cross,’

smothers grain-robbing weeds like its African parents, resists droughts and pests, and is able to thrive in poor soils.

Participatory research lies at the core of the NERICA success story. Through a mechanism called “Participatory Varietal Selection,” a communication dynamic was established and allowed farmers to grow several varieties and provide valuable feedback to scientists. In turn, the scientists were able to learn about the traits that were most valuable to farmers and incorporate those preferences in breeding strategies.

CIAT, IITA and IRRI partnered with WARDA in the NERICA effort. This work also benefited from the support of national programs in 17 African countries and a range of advanced research institutions. The NERICA story shows how the CGIAR can mobilize frontier science to develop global public goods that benefit not only people but the economy, and helps ensure political stability in a vital region of Africa.

CGIAR Business Matters

Recommendations of Cosponsors and CGIAR Committees

The Group received and endorsed written and oral reports and recommendations from the Cosponsors and the Oversight, Finance, Technical Advisory, Genetic Resources Policy, Non-Governmental Organization, Private Sector, Science Partnership, Center Board Chairs, and Center Directors Committees, and the Consultative Council. (See annexes for full reports.)

2000 Funding Update

The Group received a report from the Finance Committee Chair on the expected 2000 financial outcome, noting that the 2000 financial outcome is likely to be in a range of \$335 – \$340 million. Fourteen Centers will be fully funded in 2000. Lagging disbursements, however, continue to be a problem.

Long Term Financing Strategy

The Group received the final report of the Finance Committee Working Group on the long term financing strategy. The report's findings show that Official Development Assistance (ODA) funding is essential for the continuation of research for the public good, that enhanced southern participation is critical, and that non-public sources (private/corporate philanthropy, new wealth, partnerships with business, and an endowment) must be tapped. The Group endorsed the Finance Committee recommendations that the long term financing strategy be implemented expeditiously and in the context of the overall change management process.

The 2001 Financing Plan

The Group adopted the Finance Committee's recommendations on the financing plan for the 2001 research agenda. Center financing plans were endorsed at identified levels and an overall CGIAR financing plan of \$340 million was approved.

Regarding the World Bank's contribution of \$45 million, the Group adopted the following recommendations:

- \$41.6 million for disbursement to Centers. This includes:
 - \$38.2 million, representing 12 percent of Center non-Bank funding, will be used as matching funds to Centers. Matching amounts will be disbursed in January 2001.
 - \$3.0 million has already been disbursed in 2000 as part of the EC adjustment package
 - \$0.4 million will be used to support the Indicators project.
- \$0.3 million to support travel costs of CGIAR committees.
- \$0.25 million as a final contribution to support Global Forum on Agricultural Research (GFAR) operations.
- \$2.85 million, as set aside, to meet potential restructuring costs arising from ICW2000 (under the Change Design and Management Team). With this allocation, the Center Directors Committee (CDC) request for \$0.5 million to implement the long term financial strategy will be considered by the Change Design and Management Team. Once the magnitude of resources required for restructuring is determined, the remaining funds will be allocated to the Centers.

The World Bank has assumed the chairmanship of the Finance Committee.

2002 Financial Planning Framework

The Group received a report on the financial planning framework for 2002. The 2002 plans should

- be based on a planning framework of \$340 million;
- confirm to TAC recommendations for specific program guidance; and
- be presented as a set of projects using the CGIAR logical framework adopted at ICW98.

The Group commissioned the preparation and distribution of guidelines as preparation for the 2002-2004 medium term plans by the Centers.

Setting the 2002 Research Agenda

The TAC Chair gave a preliminary report on research directions for 2002. The Group will consider and make decisions on the 2002 research agenda at MTM2002. Center program and budget proposals for 2002 will be viewed in the context of the 2001-2003 medium-term plans. TAC will compare the proposals to ensure consistency with the Group-endorsed recommendations on CGIAR priorities and ensure that change is taking place in the broad strategic directions that have been endorsed. With the adoption of the new Vision and Strategy, TAC will review the priorities and recommend new priorities to the Group. Therefore, the proposals for 2002 will be based on the 1997 priorities submitted by TAC and approved by the Group.

TAC encouraged the Centers to begin incorporating the new Vision and Strategy into their plans, especially the work with national agricultural research systems (NARS) on regional agenda setting.

Following discussion in plenary, the Group commissioned the preparation of the 2002 research agenda by the Centers.

External Program and Management Review of CIAT

At a parallel session chaired by Francisco Reifschneider, an ad hoc committee of interested CGIAR members and other ICW2000 participants discussed the report of the fifth external program and management review of CIAT as well as the Center's response and the TAC commentary. Following discussion in a parallel session, the ad hoc evaluation committee presented the report to the plenary where the Group discussed and endorsed the recommendations. Chairman Johnson commended the review panel and ad hoc committee for their excellent reports.

Highlights of the Committee Discussion

The ad hoc committee agreed with the overall conclusion of the Review Panel and of TAC that CIAT has performed very well as a CGIAR institution during the last five years and that the report reflects a very positive assessment of CIAT's research program and the way the institution has been managed.

CIAT underwent major changes during the review period and yet was able to maintain the quality of its science and relevance of its outputs. CIAT has become "a new model among the CGIAR centers." It has implemented a flatter and more participatory management structure and seeks to blend two research directorates -- genetic resources and natural resources. Exemplary models of partnership include Research Park, FLAR (Fund for Latin American-Caribbean Irrigated Rice) and the Whitefly program. These models represent a new and more open center that is a hub for research in the region while maintaining an international presence and impact.

The ad hoc committee raised the following concerns and challenges:

- Improving donor coordination is essential to enable CIAT to keep a coherent research focus in the face of a program funded largely through 140 restricted research grants (approximately 70 percent of CIAT's budget). The challenge is to ensure that each research activity contributes to the overarching goals of CIAT's mandate.
- Striking the right balance between commodity and NRM research is critical. This is a dilemma which involves a rising role and interest in NRM work, but with insufficiently well-defined methodologies and uneven results, and a decline in commodity research, with a consequent slow-down in outputs. The participants recommended that CIAT renew its commitment to commodity research and better integrate the germplasm and natural resource management programs.
- Increasing support to the Bean Program was highlighted. The program is the only one of its kind in the world and participants endorsed CIAT's commitment to increase collaboration with ICARDA, ICRISAT and IITA on legume research. Additional support is needed in order to maintain and eventually expand the Bean Program.
- Developing a more rigorous overall research approach in integrated natural resources management is a must. The participants endorsed the recommendation that CIAT continue to adjust its work towards improving the hillside programs.
- The participants were pleased to note CIAT's contribution to several international conventions and issues of global interest, particularly the work on CBD and carbon sequestration, which ensures relevance not just for CIAT but for the CGIAR system.

Conclusions and Recommendations

The ad hoc committee:

- endorsed the Review Panel's recommendation and very positive assessment of CIAT, and thanked the panel for an excellent report;
- encouraged members to continue to support CIAT's work; and
- assured the Group that CIAT is well placed to meet the challenges to international agricultural research.

Decision: The Group endorsed the ad hoc committee's conclusions and recommendations.

CGIAR Plant Breeding Review

A panel of experts under the chairmanship of Donald N. Duvick reviewed plant breeding methodologies throughout the CGIAR System. Mr. Duvick reported that the review looked at conventional plant breeding, biotechnology and transgenics, synergies among Centers, synergies with the private sector, intellectual property rights, participatory plant breeding, and outsourcing.

The main findings of the review follow:

- Centers are effectively and efficiently using traditional plant breeding techniques;
- Centers are effectively using new tools, but these will not replace traditional methods, at least in the short term;
- Biotechnology can increase the efficiency and effectiveness of breeding programs but entail increased costs;
- Centers are already effectively outsourcing some aspects of their biotechnology work with institutes outside the CGIAR, but this should be expanded;
- Financial support for germplasm development and enhancement should be increased, and appropriate changes should be made in funding mechanisms that hinder inter-Center collaboration.
- Improved collaboration, consolidation, and even centralization of some operations across Centers, particularly in the new technologies and biotechnology, can further increase the effectiveness of plant breeding.

Decision: The Group endorsed the recommendations of the review of plant breeding methodologies throughout the CGIAR System.

Land Use and Climate Change

Global climate change is inextricably linked with the CGIAR's goals of food security, poverty reduction, and protection of the natural resource base. The CGIAR first discussed climate change at MTM98, when Robert Watson, World Bank Chief Scientist and Chairman of the Intergovernmental Panel on Climate Change, presented an overview of what were then the current scientific findings on climate change, the significance of climate change for agriculture and forestry, and options for

mitigation. At that meeting, the CDC created the Inter-Center Working Group on Climate Change (ICWG-CC) to develop an integrated research strategy for the CGIAR.

At ICW2000, Dr. Watson presented a global perspective on land use, land use changes, and climate change. His presentation covered the observed and projected changes in climate, the impact of these projected changes on agricultural productivity and forests, the key issues and decisions for the 6th Session of the Conference of Parties to the UN Framework Convention on Climate Change (UNFCCC), and the potential for land-use, land-use change and forestry activities to mitigate climate change.

Dr. Watson offered a preview of the third assessment report from the Intergovernmental Panel on Climate Change (IPCC), the first full scale review and update of the state of climate change since 1995 when the same panel concluded "there is discernible human influence" on the earth's climate because of the "greenhouse" effect caused by the build up of heat-trapping chemicals in the atmosphere. The panel's new assessment said "there is stronger evidence" yet of the human influence on climate and that it is likely that man-made greenhouse gases already "have contributed substantially to the observed warming over the last 50 years." In revised estimates, the panel concluded that if greenhouse gas emissions are not curtailed, the earth's average surface temperature can be expected to increase between 2.7 and nearly 11 degrees Fahrenheit by the end of this century, substantially more than in the IPCC report five years ago.

Agriculture accounts for a significant portion of the total annual accumulation of greenhouse gases, largely carbon dioxide, methane, and nitrous oxide. The projected effects of climate change on developing country agriculture, i.e. on crop productivity, livestock, forestry and fisheries, are enormously significant.

Pedro Sanchez, ICRAF Director General and chair of the ICWG-CC, reported on the working group's progress. The working group's objectives include assessing the impact of the Green Revolution (which accounted for the tripling of food production) on global climate change parameters during the last 30 years, and developing a research and capacity agenda in support of the UNFCCC and of poor farmers in the developing world.

A recently completed study showed that about 426 million hectares were saved by the Green Revolution during the period 1965 to 1995. These millions of hectares of natural forests and grasslands would otherwise have had to be converted to croplands. This essentially means that agricultural land in developing countries would have had to double to produce the same amount of food.

The Centers' work plan includes the following proposed projects relating to global climate change and agriculture:

- Hotspots of carbon sequestration (ILRI)
- Use of CGIAR long-term trials for soil carbon and nitrogen dynamics (ICARDA)
- Measuring soil carbon at the project level (ICRAF)
- Increasing nitrogen use efficiency in agroecosystems (ICRAF)
- Dynamics of carbon in degraded, rehabilitated and well-managed systems of land use in the tropics (CIAT)
- Resolving the dichotomy between maximizing rice yields and carbon sequestration while minimizing pollution (IRRI)
- CH₄ emissions in semi-arid pastoral systems (ILRI)

- Capacity building among NARS and policymakers from the South (ICRAF)
- Pilot CDM projects with farming communities (Alternatives to Slash and Burn Consortium)
- Ex-ante impact study for 2000 - 2030 (CIMMYT)

Decision: After discussing the links between global climate change and the CGIAR's research agenda, the Group welcomed the overview of the current scientific findings on climate change and affirmed its support for the work plan proposed by the Centers.

Mohamed El-Ashry, Chief Executive Officer and Chairman of the Global Environment Facility (GEF), provided an overview of the GEF, which is the largest provider of grant resources for global environmental issues, and which provides additional funding to complement the work of other agencies including the World Bank. GEF was established to forge international cooperation and finance to address threats in four critical areas: biodiversity loss, climate change, degradation of international waters, and ozone depletion. Related work to stem the pervasive problem of land degradation is also eligible for GEF funding.

The GEF can succeed in its global environmental missions only as part of a worldwide movement toward sustainable development. GEF and CGIAR are both working for a sustainable future, but approaching it from different angles – the global environment on the one hand and food security on the other. Clearly CGIAR is and will continue to be part of the solution. GEF has helped fund the Alternatives to Slash and Burn Agriculture Project spearheaded by ICRAF and is a principal funder of the Millennium Ecosystems Assessment to which several Centers are contributing.

Decision: The Group welcomed the potential for increased collaboration between the CGIAR and GEF.

Integrated Natural Resource Management

The Third System Review recommended that all CGIAR research be carried out under the complementary thrusts of integrated gene management (IGM) and integrated natural resource management (INRM). The CGIAR has undertaken several initiatives under the INRM thrust:

- The first review of systemwide programs with an ecoregional approach;
- Efforts to develop priorities and strategies for marginal lands;
- Creation of an inter-Center INRM Task Force; and
- Development of a CGIAR/INRM web site.

The Task Force, which functions under the auspices of the CDC sub-committee on sustainability and the environment, works with TAC to develop methodologies for INRM research and to analyze its impact. The Task Force organized its first workshop at Bilderberg, where principles and criteria were established for the application of INRM methods. The most recent consultation organized by the Task Force was an international meeting of scientists at Penang, Malaysia, in August 2000.

Jeffrey Sayer, Director-General of CIFOR and chair of the CDC subcommittee on natural resources management, presented a report on the Penang meeting. The Penang meeting included representatives from 14 Centers, NARS, and resource staff. Scientific papers prepared as background for the discussions will be published in the electronic journal *Conservation Ecology*, which is sponsored by

the Rockefeller Foundation. Outputs from the meeting include a strengthened conceptual framework, development of an INRM vision and strategy for the Centers, progress on impact assessment, and strengthened communities of practice. Next steps will focus on models of agro-ecosystems, protocols for data management, communities of practice, knowledge management, and impact assessment.

Decision: The Group received a progress report on the work of the INRM Task Force and endorsed the INRM work program.

Impact of HIV/AIDS on Agriculture

The HIV/AIDS crisis and its implications for rural development and agricultural research in Africa were detailed by Hans Binswanger, World Bank Sector Director for Agriculture. The gravity of the issue deserves special attention from the CGIAR. Mr. Binswanger described the enormity of the epidemic (30 million infected, 10 million already dead, 10 million orphans) and the inadequacy of the response (no national programs, only a "boutique" approach in rural areas).

The impact of HIV/AIDS on agriculture is not hard to assess. In the first round of impact during sickness, the farm labor supply will be down, assets such as farm animals will be depleted because of high health care costs, malnutrition will increase, and children will be withdrawn from schools. In the second round of impacts, households will be reconfigured or simply dissolved, and there will be more orphans. Likely aggregate effects include decline in population, higher dependency rates, reduced and undernourished labor force, more environmental damage, and incalculable social effects. The full implications for agricultural research are far reaching, as are the social effects for staff, families, and the farming enterprise.

The most important issue in the fight against HIV/AIDS is how to scale up existing programs that are only reaching small numbers of people to the national level. The daunting challenge of building truly national HIV/AIDS programs should be based on insights gained from participatory, decentralized rural development experiences and from HIV/AIDS programs. The integrated rural development projects of the 1970s and 1980s, carried out in a large number of developing countries, relied on central sectoral agencies (such as agriculture, infrastructure, education, and health) for the planning and execution of the multiple components of the program. Neither private enterprises nor (non-governmental organizations (NGOs) were heavily involved, and beneficiary populations participated little in planning, design and project execution. The resulting coordination problem was difficult to overcome. The fundamental lesson is that it is impossible to scale up multi-sector programs by relying on central sector agencies for implementation.

It is possible to cover entire local government areas or districts with HIV/AIDS programs that include several components, multiple sectors, and many actors. Once a single district can be covered, the approach can be scaled up quickly to national levels. However this will only happen if governments, multilateral institutions, and bilateral donors are willing to empower communities and local and sectoral HIV/AIDS committees with financial resources. Equally important is enlisting those people who have struggled for years in the small, under-funded programs to train and guide the large numbers of locally credible volunteers needed to reach the entire population.

Because of its large presence in Africa, the CGIAR is in a unique position to leverage change for the well-being of its staff, their families, and farming communities. Medical insurance should cover

all drugs and treatments for HIV/AIDS, including anti-retroviral medications which have dramatically reduced AIDS-related deaths in developed countries. It bears noting that even for national systems, it will be cheaper to treat HIV/AIDS than not. The costs of not treating the affected are high, without counting loss of agricultural outputs.

Decision: The Group agreed that the CDC should take the lead in developing a "shared code of conduct" regarding HIV/AIDS policies for Centers and that the Centers' work programs should take into account the relationship between HIV/AIDS and food security.

CGIAR Africa Strategy – An Update

The meeting was chaired by Hans Binswanger, World Bank Sector Director for Rural Development and Environment, and included presentations by Hank Fitzhugh, ILRI Director General and Joseph Mukiibi, FARA Co-Chair.

In his opening remarks, Mr. Binswanger indicated that the African scientific community is moving forward in its reform at national, sub-regional, and regional levels and has become self-guiding. The maturity of the sub-regional research organizations (ASARECA, CORAF/WECARD and SACCAR) has led to the establishment of a new regional mechanism, FARA.

It was noted that significant efforts have been made to improve CGIAR-NARS partnerships in Africa, but more needs to be done to empower African NARS and other clients, and to broaden partnerships with the private sector. Current efforts need to be revisited in the light of the changes being contemplated in the System, especially the proposals made by African NARS and the World Bank. Intensive consultations should continue so that tangible proposals with a focus on empowerment of clients and scientists can be made at MTM2001.

Hank Fitzhugh presented CGIAR's SSA strategy and the participatory process that led to its formulation. He noted that the strategy centered on four principal elements:

- Germplasm and natural resource management technologies
- Technology dissemination and farmer empowerment
- Policy research
- Capacity building

In operationalizing the strategy, the CGIAR Centers have started to (a) focus on the research-development continuum, (b) enhance collaboration with African partners, and (c) strengthen ongoing efforts among CGIAR Centers to improve coordination. Specifically, in implementing the strategy, the following initiatives are underway to achieve efficiency and effectiveness:

- Consolidation of program and administrative support (involving WARDA, ICRISAT, IITA in West Africa and ILRI, ICRAF in East Africa)
- Conducting an inventory of activities (in collaboration with ASARECA and SACCAR in East and Southern Africa, and with CORAF, WECARD in West and Central Africa)
- Regional planning and priority setting in collaboration with NARS and SROs

Joseph Mukiibi presented a synthesis of the views of African NARS, and called for a major effort by the CGIAR to empower its clients, fuller involvement of African universities, regional research centers, the need to assure public domain and the public good nature of research output, and enhance NARS capacities. The group proposed that a core fund be set up for strategic research, including a scientific empowerment fund to enable scientists to carry out innovative research, and explore the possibility of SROs contracting CGIAR Centers to include specific research areas that address national and regional priorities. Dialogue on these issues must continue (in the lead-up to MTM2001 in Durban and the FARA/SPAAR meetings in Addis Ababa, Ethiopia).

Decisions: The Group endorsed the efforts to improve CGIAR-NARS partnerships in Africa.

International Undertaking on Plant Genetic Resources

On behalf of M. S. Swaminathan, Chairman of the Genetic Resources Policy Committee (GRPC), Geoffrey Hawtin reported on the status of the negotiations of the FAO International Undertaking on Plant Genetic Resources. The International Undertaking is currently being revised to harmonize relevant provisions with the Convention on Biological Diversity under the auspices of the FAO Commission on Genetic Resources for Food and Agriculture. The CGIAR supports the establishment of a multilateral system under the International Undertaking. The GRPC strongly believes that all important crops on which the CGIAR works should be included in the scope of the multilateral system. These should include all crops held in Center gene bank collections under the CGIAR/FAO agreements, those undergoing genetic improvement, and those associated with other aspects of Center research. Omission of any of these crops could be interpreted to mean that either the crop is not viewed as particularly important, or that conservation and breeding work can effectively be handled solely by national governments without multilateral or CGIAR assistance.

Mr. Hawtin also reported that the CDC had decided to retain the "guiding principles for the CGIAR Centers on intellectual property relating to genetic resources" previously endorsed by the Group and to reaffirm its full commitment to the FAO/CGIAR agreements.

Decisions: The Group adopted a statement that the proposed multilateral system under the revised International Undertaking on Plant Genetic Resources should include those crops of greatest importance to the work of the CGIAR. The Group also endorsed a statement stressing the Centers' full commitment to the FAO/CGIAR agreement on genetic resources and to upholding the spirit and letter of those agreements.

Briefing by World Bank Operations Evaluation Department

Robert Picciotto, Director General of the World Bank's Operations Evaluation Department (OED), informed the Group about plans to conduct a review of the public goods aspects of CGIAR's work as part of a larger effort to assess the development effectiveness of global public goods programs supported by the Bank and to draw the lessons of experience from existing programs. The review would be led by Uma Lele, and would involve consultations with a wide range of stakeholders. He

urged the Members to look afresh at the issues of CGIAR-NARS relationships, particularly on capacity building, and the need to build linkages with the private sector.

Mr. Picciotto gave several examples of questions the evaluation might address:

- Are the returns on CGIAR investments, while still high, being eroded by internal transaction costs, lateral mission creep (from R & D), and inadequate connectivity to national research institutions.
- Does the CGIAR allocate sufficient resources to sub-Saharan Africa -- is 40 percent the right share?
- Do developing countries, the CGIAR's main clients, have enough of a voice in the management of the system?
- Is current CGIAR governance adequate in terms of inducing discipline in Center management and resource allocation?
- Are CGIAR partnerships adapted to the operating environment? Is the balance between developed and developing countries appropriate? Is CGIAR tapping the enormous scientific assets of such countries as India, China, and Brazil? Should new style, hybrid partnerships combining the legitimacy of the public sector with the energy and resources of the private sector and the idealism of civil society be crafted?

The draft OED review is scheduled to be completed by April 2001.

Honors and Awards

The CGIAR created the King Baudouin Award to acknowledge and stimulate agricultural research and other activities relevant to the System and to recognize achievements stemming from a Center's work. WARDA received the 2000 CGIAR King Baudouin award for developing "New Rice for Africa" (NERICA), high-yielding, disease resistant and drought tolerant upland rice varieties suitable to growing conditions in West and Central Africa.

The Chairman's Excellence in Science Awards recognize outstanding scientific achievements by CGIAR scientists and support staff. The Chairman presented the 2000 awards to:

Promising Young Scientist – Bernard Vanlauwe, associate scientist, IITA, for outstanding work in developing balanced nutrient management systems for maize-based farming systems.

Outstanding Local Scientist – Alberto Barrion, senior associate scientist, IRRI, for contributions in the field of entomology that have benefited both national and international programs in such areas as integrated pest management, biodiversity, and pest modeling; his work provided crucial information to small and resource-poor farmers.

Outstanding Local Scientific Support Staff – Ellen Payongayong, research analyst, IFPRI, for outstanding and consistent performance over the past 13 years in providing statistical and data management support.

Outstanding Scientific Article – S. Ceccarelli, et al, ICARDA, for a paper published in *Euphytica*, a refereed journal, reporting on the results of an extensive experiment carried out in nine villages and

two research stations in Syria. The work represented a significant innovation in participatory plant breeding and shows that farmers can contribute much to developing improved barley varieties and enhancing genetic diversity.

Outstanding Scientific Partnership – CIMMYT, IRRI and NARS partners (Bangladesh, India, Nepal and Pakistan) in the Rice-Wheat Consortium for the Indo-Gangetic Plains. This ecoregional program has fostered the development of conservation tillage practices suitable for rice-wheat systems, and has contributed to their successful scaling up, benefiting large areas and large numbers of farm families in the region.

Special Honors

Farewell to Roberto Lenton and Alexander von der Osten

The Group adopted resolutions recording its appreciation of the contributions of Roberto Lenton, UNDP cosponsor representative, and Alexander von der Osten, Executive Secretary, to the effectiveness of the CGIAR.

The resolution honoring Mr. Lenton, who is leaving UNDP and thus his cosponsor role, reads:

"The Consultative Group on International Agricultural Research, meeting on October 23, 2000, at International Centers Week, unanimously resolved as follows:

In recognition of his strong interest in tropical agriculture, his wealth of knowledge in agricultural research, and for the strong support he extended to CGIAR scientists and their partners in developing countries, CGIAR Members extend their appreciation to Roberto Lenton for his pioneering leadership as Director General of the International Irrigation Management Institute and his distinguished service as a cosponsor of the CGIAR, representing the United Nations Development Programme. CGIAR Member s offer him their very best wishes in his future endeavors."

The resolution honoring Mr. von der Osten, who is retiring from the CGIAR, reads:

"The Consultative Group on International Agricultural Research, meeting on October 23, 2000, at International Centers Week, unanimously resolved as follows:

The CGIAR extends its gratitude and appreciation to Alexander von der Osten for his outstanding contributions to the CGIAR System through his leadership as Executive Secretary of the Technical Advisory Committee, Director General of the International Service for National Agricultural Research, and Executive Secretary of the CGIAR; his effectiveness as an international spokesperson for the CGIAR System; his dedication to transforming the CGIAR into a fully South-North enterprise; and his enduring commitment to the mission and goals of the CGIAR. The CGIAR offers him warm felicitations and best wishes for the future."

A Tribute to Ismail Serageldin

At ICW2000, the Group held a special symposium, *The CGIAR in the Millennium: From Renewal to Rebirth*, to say a formal farewell to former CGIAR Chairman Ismail Serageldin. Mr. Serageldin, who began his chairmanship in 1993, stepped down in July 2000 when he ended his World Bank vice presidency.

CGIAR Chairman Ian Johnson presented Mr. Serageldin with a scroll of honor recognizing his many contributions to the CGIAR:

"The CGIAR, meeting on October 23, 2000, at International Centers Week, unanimously resolved as follows:

Members of the CGIAR System extend their enduring appreciation to the Group's seventh Chairman, Ismail Serageldin, for an inspiring, vigorous, and forward-looking leadership, for the highly effective program of renewal he managed, for his unrelenting commitment to the cause of mobilizing cutting-edge science to serve the poor, for guiding the CGIAR through its transformation into a South-North enterprise, for his commitment to nurturing linkages between the CGIAR System and other institutions in the global agricultural research system, and for the strong support he extended to CGIAR scientists and their partners in developing countries. CGIAR Members offer him their best wishes in his future endeavors."

A series of speakers contributed to the symposium, remembering Mr. Serageldin's many contributions and addressing the opportunities and challenges of the new millennium.

- Per Pinstrup-Andersen, Director General of IFPRI and chair of the Center Directors Committee, praised Mr. Serageldin's vision, leadership, and tireless efforts to increase food security, and the tremendous challenges facing agriculture in the 21st century. According to FAO, the World Food Summit goal of reducing the number of food-insecure people by half by the year 2015 will not be achieved until 2030. Projections show that by the year 2020, one-third of the world's poor and malnourished people will be in Africa, the only region where child malnutrition is expected to increase until the year 2020. Strategies to increase food security and decrease malnutrition, especially in children, are possible but they require the political will of the world's decisionmakers.

- Jacqueline Ashby, Deputy Director General of CIAT, spoke about Mr. Serageldin's successful efforts to focus the CGIAR on improving equity, and in particular gender equity in the face of poverty, and to create an environment in the CGIAR which promotes change. As a result of his leadership, the Participatory Research and Gender Analysis Systemwide Program promotes the scientific use of state-of-the-art, gender-sensitive, participatory research methods, and the Gender and Diversity program works to improve management practices that promote diversity and gender equity in the CGIAR workplace.

- Tim Reeves, Director General of CIMMYT, focused on the Mr. Serageldin's strong support for the potential of the new science being practiced by the Centers, from new breeding methodologies to gene mapping, functional genomics, and genetic engineering. Modern biotechnology, in particular, vastly increases the precision and reduces the time required to make changes in plant characteristics, and greatly increases the potential sources from which desirable traits can be obtained. The challenge will remain whether we can harness the enormous potential of this new science for the benefit of the poor in developing countries.

Tribute continued ...

- Pedro Sanchez, Director General of ICRAF, praised Mr. Serageldin's leadership on natural resource management, one of the pillars of the CGIAR's research agenda. He used the example of Sub-Saharan Africa to illustrate the significance of an integrated natural resource management approach. Because of a series of policy failures, farmers in Sub-Saharan Africa have been forced to deplete the soil of key nutrients. Inorganic fertilizer, a traditional input for soil nutrient depletion, is hardly the solution because African farmers must pay 3 - 4 times what farmers in developed countries pay. An integrated natural resource management approach (i.e. a combination of inorganic and organic inputs) offers the most likely response for poor small holders. Agricultural research must not only protect the ecosystems on which we all depend, but also imaginatively tap the resources of nature to achieve the response to the triple challenge of food security, poverty, and the environment.

- William Dar, Director General of ICRISAT, called Mr. Serageldin "a man of great leadership and intelligence," who made partnerships a hallmark of his tenure as CGIAR Chairman. Mr. Serageldin's first major initiative as Chairman was to launch a Ministerial-level meeting at Lucerne where the international community reaffirmed its commitment to the centrality of agriculture and agricultural research in combating the nexus of problems associated with poverty, hunger, and environmental degradation. Under Mr. Serageldin's leadership, partnerships have been inaugurated at all levels of the System.

Future Meetings

MTM2001
ICW2001

May 21 – 25
October 29 – November 2

Durban, South Africa
Washington, DC

Chairman's Closing Remarks

Before we get into my closing comments, let me just thank a number of people who have contributed to the studies that have formed the backdrop of these discussions. This has been a heroic effort and it is much appreciated.

And also for those who have been here for this ten days working very, very hard, there was an extraordinary amount of business conducted here, and I'd like to congratulate you for the effort you've made. Those who have been working on this meeting in our Secretariat, I would like to thank them, under Alexander von der Osten's capable leadership. And perhaps we can offer them a round of applause.

We've also got to thank our interpreters, who have done an incredible job. And, of course, if I have missed anyone, please excuse me, but this has been a really wonderful exhilarating week. I've been able to say good-bye to some very close friends—Alexander, Roberto Lenton, and Ismail Serageldin. I worked with Ismail a long time.

I've also been able to say hello to some new friends: Jacques Ekebil, who is attending his first CGIAR meeting as FAO cosponsor representative—and I know we're going to work well together—and Francisco Reifschneider who is joining us as Director of the CGIAR Secretariat. You are going to be an incredible member of the team, Francisco, and it is going to be a lot of fun. And we have our work cut out, but I cannot think of a better person, so I'm delighted you are joining us.

And I saw some old friends—Alex McCalla, whom I thought I had said good-bye to about a year ago. It was wonderful to see him and his commitment still to the CGIAR.

Of course, as I mentioned on day one, a very good friend and mentor to me, Nyle Brady, is also a mentor to many people in this room. It was wonderful to see Nyle. As always, his advice to me was sound and helpful, and I appreciate it.

And, of course, my new friends, the CGIAR Directors General, the chairs of the Center Boards, members, and stakeholders. Thank you very much for this week. You are all indeed friends of the Chair.

We asked the questions of what to do, how to do it, and where and how to fund it—very simple questions about the CGIAR. The discussion on what to do, it was very rich. It was extremely informed by Emil Javier and his thinking, and I want to thank you, Emil, for the thoughts that you have put together and your approach.

We have talked much about the context in which we work today. We have certainly moved, from the thinking of 20-odd years ago of yields alone, to thinking about poverty. But in thinking about poverty, we must also think about sustainability and sustainable development.

We must not fall into the poverty trap, in inverted commas, of being too myopic. Our job is not only to help the poor of today; it is to help the poor of tomorrow, the children of farmers and their children. And I think that as we look at the benefits of research, we must look at the longer term as well as at the very short term benefits.

It is incumbent on us as we think about our strategies that we do indeed think very much about the longer-term dimension of our work. And the fact is that much of your work will not pay off next year. It may not even pay off in five years' time, but it may pay off in 10 or 15 or 20 years' time. And so we must keep our eye on the prize. It is poverty, but it is poverty within a medium- to longer-term sustainable framework.

We also talked about what I have often referred to as the sort of "value chain of research," and that has left a very deep impression on me. It is not just about pure research, about work in the laboratory. It is about work in the field. It is about working with the NARS, working with farmers. It is about understanding not just the scientific barriers to productivity gains, but also the non-market barriers, the rural roads, the marketing systems.

As we discovered when we recently visited western Kenya, it doesn't matter if you double your yields if you can't sell them, and it doesn't matter if you double your yields if you are paying four, five, six times the world price for your inputs. So we must take a holistic view to our role and duties in terms of rural poverty.

We also must recognize the deep social issues that afflict and affect rural poverty, whether they be gender or otherwise. And as we heard eloquently from Hans Binswanger—and I am really honored that Hans said he would come and talk to us—I sensed at that meeting that many of you were very touched and moved by his speech. The tragedy of AIDS is not just the tragedy of Africa but of many parts of the world.

I think I mentioned when Hans was here that when we talk about the importance of young farmers associations in Western Africa and Kenya or wherever, we have to assume that there will be young farmers. And we are beginning to see some very deep concerns about the impact that AIDS will have on farm families and rural poor.

In broadening the agenda and beginning to contextualize our mission as one of rural poverty in the context of sustainable development, we mustn't forget about growth. For many, many parts of the world, agriculture will indeed be the engine of growth. It will be the driver that will propel economic growth, and it is economic growth that will be one very, very important element of poverty reduction. We cannot ignore that.

So productivity is important, but it is not everything, and I think if I can paraphrase Emil's work and strategies, it really is pointing in that direction.

Also, Emil and others have pointed to the importance of the regional or local dimension and how we fit the local and the regional to the global, and that is something that we have to take forward with us.

We then turned to the "how to." How do we organize ourselves? How do we deliver what we have to deliver? I talked about a new agenda and the need for us to reenergize and rededicate our efforts to ensure that the institutional frameworks we put in place reflect our new agenda and the new business we're in.

And the more I thought about this even before this meeting, the more convinced I am that the centrifugal force of the organization, however we define it in the future, is the Centers and the quality of the Centers and the quality of their staff and their scientists.

And so it was very important for me to make one change. I wanted the Director Generals, or at least I wanted the Centers, to be represented around this table. That was apparently a big change. I was told it was revolutionary, but it is a velvet revolution if that is the case.

But I think it is very, very important that we see this as a collective endeavor, and that those who are at the forefront of the work representing the Centers are really at the forefront of the organization. And any changes that we make must involve them fully.

I would also say that I don't claim to be an expert on change management. But I have lived through change management in the institution in which you are sitting today and there are many, many lessons from that. But the one that I think is dearer to my heart is that if it doesn't come from the inside, it won't work.

Any change management that is imposed from the outside will not work. It must be driven by those inside. They may need help from the outside. Sometimes, shocks to the system

are warranted and helpful in energizing all of us, but change must come from the inside. Therefore, it is very important that we do listen to the Centers.

And in that regard, as we talked about nomenclature which seemed to not quite fit our deliberations. The term "federation" worried some, while "corporate" worried others, something that wasn't intended, a legal body, a business legal body.

What we are trying to get at is to move from a group of disparate Centers, into a system, and in so doing capture the externalities and benefits of operating as a system.

And in that regard, we discovered indeed, to the great credit of the Centers, I think, that there is an awful lot going on, and they deserve credit for what is going on. It is beginning to happen, and what we've got to do is build on best practice, not pretend that we're inventing something new, but rather moving an agenda forward.

We heard about collaboration across a whole range of issues, from the frontiers of science, to issues of public policy, to issues of intellectual property rights, to issues of institutional relationships, to issues of management.

We also heard from Hans Binswanger today a cry for an enlightened HIV/AIDS policy. And I believe the Centers are committed to an enlightened policy with respect to assistance to colleagues and friends who work in the Centers who may be infected by HIV. This is something that I heard the Centers say they would take very seriously.

And so I think we're off to a very, very good start on the "how tos." My sense is that we can come back to you at MTM2001 with an action program that is inclusive, that has been based on a wide consultation. You may disagree with some of the conclusions, but you will not be able to say—anyone in this room should not be able to say—they weren't consulted, that we didn't listen.

That is my commitment to you, and it is an important commitment if we are to come to closure on the organizational issues. And I frankly intend to come to closure on that. As Stein Bie has said, we owe it to the 7,000 people who work in the Centers who are not here today.

Finally, we talked about where the money should come from, and how. And I think that what emerged from those discussions was that as we think about change management, we cannot divorce the vision, the what we do, the organization, the how we do it, from where we get the money. We all have to begin thinking about what changes we can make so that the System works as a system.

And I say that whether you are sitting in a Center, whether you are the Chair of TAC, whether you are a cosponsor, whether you are a donor. It is incumbent on all of us to see how we can make a contribution to making the CGIAR work as a system and to making the system work as efficiently and as effectively as it can.

Therefore, I think that as we talk to donors, we have to initiate a discussion that is based on a more programmatic concept, which is based on a lowering of transaction costs, of direct and indirect costs. I think the mood of donors and investors suggests that the time is right for that discussion.

So at the next meeting, I would love to come to closure on governance and organization. I have a sense from around this table that you would much sooner be wrestling with the frontiers of science, the struggle with AIDS, the public policy dimensions of food and nutrition, the issues of intellectual property rights, the issues of how to deal with the rural poor and the disenfranchised, than you would the legal frameworks that might or might not be suitable for this institution.

I think the location of MTM2001 is important. It is in Africa, the most important region of the world. Let's be clear. This century has to be Africa's century, and that is something I think we've got to take to heart. We heard, I thought, a very, very good presentation from the African strategy meeting, and it was one that I think is heartening.

As we move forward in the regional dimension of our work, I would make a plea for pragmatism, for focusing on the comparative and competitive advantage of those working in those regions in terms of how they do their regional work.

Let us not get into a "who does what," "who has the monopoly to do what" business. Let's be agile, flexible and, above all, sensible. And if we are, we can do some really innovative and creative work at the regional and sub-regional and national level. We can begin to see the strategic fit between the work coming up from the regions, the national and local level, and the work of the global sectors and the global Centers. And the global public goods element must always be present. It doesn't have to be omnipresent, but it must be there and it must be understood.

We must recognize that while the regional dimension is absolutely central, we also have to ask what are the global challenges, because these do not necessarily come from bottom-up approaches. They do come from an understanding of our planet as a single planet, and they do come from the sorts of threats that are imposed upon the planet. Bob Watson's talk on climate change really warned us of that.

Let me conclude by just saying that when I came to this job, Ismail Serageldin and V. Rajagopalan who was also somebody I worked with a few years ago in the Bank, told me. What Ismail said is that "you will really, really enjoy working with the CGIAR, and at the end of your time, you will look back and find it the most satisfying thing you've ever done." Last night, I bumped into Raj and he said, "you know, Ian, you're going to find at the end of your career that the most exciting thing you ever did was the CGIAR."

So I was alerted, and so far I've had a lot of fun.

Thank you very much for your help. I hope you have a great and safe journey home. Thank you.

Annexes

A
CGIAR
ICW 2000

ICW2000 Agenda

- 1. Opening Session**
 - (a) Chairman's Opening Address
 - (b) Chairman's Announcements
 - (c) Adoption of the Agenda
- 2. Vision and Strategy for the CGIAR**
 - (a) Presentation by TAC Chair
 - (b) Discussion
- 3. Organizational Structure and Governance of the CGIAR System**
 - (a) Report of Consultative Council, Oversight Committee, and Synthesis Group
 - (b) Discussion in plenary
 - (c) Discussion by working groups/Discussion in plenary of reports from working groups
 - (d) Decisions and next steps
- 4. Long-Term Financing Strategy**
 - (a) Presentation by the Finance Committee
 - (b) Discussion
- 5. Frontier Science, Global Public Goods, and the CGIAR**
 - (a) An Issues Seminar
 - (b) Centers Forum
(Themes and center groupings are attached)
- 6. The CGIAR Research Agenda**
 - (a) Financing the 2001 Research Agenda
 - i Report of the CGIAR Finance Committee
 - ii Discussion
 - (b) 2002 Research Directions
 - i Presentation by TAC Chair
 - ii Discussion
- 7. Climate Change: An Update**
 - (a) Report of the Inter-Center Working Group on Climate Change
 - (b) Land Use and Climate Change: An Update
 - (c) Discussion
- 8. Integrated Natural Resource Management (INRM): An Update**
- 9. CGIAR Involvement in Africa: An Update**
 - (a) The Impact of HIV/AIDS Crisis on Rural Development and Agricultural Research
 - (b) CGIAR Africa Strategy: An Update
 - (c) Discussion
- 10. Business Matters**
 - (a) External Program and Management Review of CIAT

- (b) Review of Plant Breeding Methodologies in the CGIAR System
 - i Presentation by Panel Chair
 - ii Comments by TAC and CDC
 - iii Discussion
- (c) Committee Reports
- (d) Presentation of Science Awards
 - i King Baudouin Award
 - ii Chairman's Science Awards

11. The CGIAR in the New Millennium: From Renewal to Rebirth

A session in honor of Ismail Serageldin

12. Other Business

Future CGIAR Meetings

13. Closing Session

Chairman's Summation and Closing Remarks

List of Meeting Documents

(Now available at our website: <http://www.worldbank.org/html/cgiar/publications/icw00/icw00.html>)

Preliminary End-of-Meeting Report

ICW/00/00: Note on Administrative Arrangements and participant registration

Registration Form

ICW/00/01a: Revised Draft Agenda

Revised Indicative Timed Agenda

ICW/00/02 Rev.1: Revised Schedule of Events

ICW/00/03: List of Documents

ICW/00/04: Report of the 18th Meeting of the Finance Committee

ICW00/05: 2001 Financing Plan of TAC Observations

ICW/00/06: Toward a Longer-Range Financing Strategy for the CGIAR

ICW/00/07: Organizational Structure, Governance and Long-Term Financing for the CGIAR: Report of the Synthesis Group

ICW/00/09: Report of the 11th Meeting of the GRPC

ICW/00/10: Systemwide Reviews in the CGIAR: Concepts, Options and Recommendations

Synthesis Group Reports

ICW/00/07: CGIAR 2010 Vision and Strategy – Governance, Organization and Structure: Report of the Synthesis Group

ICW/00/07-1: TAC's Views on Implications of the New CGIAR Vision & Strategy for Structure and Governance

ICW/00/07-1: Structure & Governance Implications of the New CGIAR Vision & Strategy (Presentation by TAC Chair Emil Javier at the Synthesis Group Meeting, October 5, 2000)

ICW/00/07-2: CGIAR Longer Term Financing Strategy: Executive Summary
(Report of the CGIAR Finance Committee Working Group; October 2000)

ICW/00/07-3: Report of the CBC/CDC Retreat: Towards a Federation of Centers (The Hague, September 2-3, 2000)

ICW/00/07-4: Electronic Conference on CGIAR Governance, Organization and Structure: Final Synthesis (September 2000)

ICW/00/07-5: Contribution of the EIARD Working Group on Restructuring of the CGIAR
(August 3, 2000)

ICW/00/07-6: CGIAR and IARC Governance, Organization and Structure: An African Perspective
(Views of Leaders of African NARS)

ICW/00/07-7 : CBC/CDC Report on Governance, Structure and Management: Frequently Asked Questions

TAC Documents

SDR/TAC: IAR/00/14.1 Rev.2 - A Food Secure World for All: Toward a New Vision and Strategy for the CGIAR

SDR/TAC: IAR/00/15 - Report of the Fifth External Program and Management Review of the *Centro Internacional de Agricultura Tropical* (CIAT)

SDR/TAC: IAR/00/18 - Systemwide Review of Plant Breeding Methodologies in the CGIAR

SDR/TAC: IAR/00/21 Rev.1 - Report of the TAC Standing Panel on Impact Assessment (SPIA)

Other Papers

Chairman's Paper: Guidelines for Next Steps

Report of the CGIAR-NGOC for the period MTM-ICW2000 (May-October 2000)

Future Harvest Center Directors Committee: Report to the CGIAR. Oct. 27, 2000

Report of the Science Partnership Committee

Report of the 13th Meeting of the CGIAR Private Sector Committee. Oct. 21-22, 2000

TAC Chair's Report at ICW2000

Parallel Session I: EPMR of CIAT

Parallel Session II: CGIAR Africa Strategy : An Update

CDC Statement to ICW2000 on the Need to Resolve Outstanding Issues Concerning IPR Relating to Plant Genetic Resources

Statement by the Future Harvest Centers of the CGIAR on the Scope of the Multilateral System Currently under Consideration in the Re-Negotiation of the FAO International Undertaking on PGR for Food and Agriculture. Oct. 27, 2000.

Report of the 20th Meeting of the Oversight Committee

Highlights of Co-Sponsors Meeting ICW2000

Speeches

CGIAR Chairman Ian Johnson's Opening Address. October 23, 2000.

CGIAR Chairman Ian Johnson's Opening Announcements. October 23, 2000

Robert Picciotto, Director General, Operations Evaluation Department, The World Bank, presentation "International Agricultural Research a Global Public Good?"

List of Participants

Chairman

Ian Johnson
Vice President
Environmentally and Socially Sustainable
Development

DELEGATIONS OF MEMBERS OF THE CONSULTATIVE GROUP

African Development Bank (AfDB)

Akililu Afework
Principal Agricultural Economist

Asian Development Bank (ADB)

Nihal Amerasinghe
Director, Agriculture and Social Sector
Department (East)

Antonio Perez
Senior Agronomist

Arab Fund for Economic and Social Development

Mervat Wehba Badawi
Director, Technical Department

Australia

Robert J. Clements
Director, Australian Center for International
Agricultural Research (ACIAR)

Ian Bevege
Principal Adviser, ACIAR

Austria

Walter Rill
Director, Ministry of Finance

Ralph Gretzmacher
Head of Department
University of Agricultural Sciences

Belgium

Luc Sas
CGIAR Officer, Directorate General
International Cooperation (DGIC)

Brazil

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Highlights of Cosponsors Meeting

The Cosponsors held their meeting in conjunction with ICW 2000 at the World Bank, Washington, D.C. The Cosponsor representatives welcomed the new CGIAR Chairman, Ian Johnson, and Jacques Ekebil (FAO) to their first Cosponsors meeting. Other Cosponsors present were Robert Thompson (World Bank) and Roberto Lenton (UNDP). Also in attendance were Emil Javier (TAC Chair), Hans Gregersen (TAC/SPIA Chair), Alexander von der Osten (CGIAR Executive Secretary), Shellemiah Keya (TAC Executive Secretary), Guido Gryseels (TAC Deputy Executive Secretary) and Manuel Lantin (Science Adviser, CGIAR Secretariat).

Follow-up to the Consultative Council Meeting

The Cosponsors reviewed the outcome of the Consultative Council's (CC) discussions on CGIAR governance, organization and structure. They took note of the Consultative Council's general recognition of the need for change in the governance and structure of the CGIAR, the basis for which was elaborated in the Synthesis Group report. They outlined some of the ideas or "building blocks" of how the process could move forward.

Role/Responsibilities of the Cosponsors

In the light of the discussions on governance, organization and structure, the Cosponsors reviewed their role and responsibilities in the CGIAR. They reaffirm their specific functions as follows:

- Providing the CGIAR Chairman and System with strategic advice
- Playing a leading role in selecting the CGIAR Director, TAC Chair, TAC members, SPIA Chair, and SPIA members
- Funding the central service units of the CGIAR, i.e. the CGIAR secretariat, TAC and SPIA, and the TAC secretariat

At MTM2000, concerns were expressed on indications that UNDP might give up its status as a Cosponsor of the CGIAR. The CGIAR Chairman has had the opportunity to discuss the issue with the UNDP administrator and the result of his interaction with him has been positive. Roberto Lenton identified a number of options that might be explored to enable UNDP to meet its financial commitment as a CGIAR Cosponsor.

The Cosponsors revisited the modality for funding the central service units of the CGIAR (TAC/SPIA, TAC/SPIA Secretariat and the CGIAR Secretariat). It was noted that the World Bank, through its contribution, has been subsidizing the overhead costs of the CGIAR. The Cosponsors agreed that opportunities for the CGIAR members to share the cost should be explored.

The Cosponsors reviewed the cost structure and funding of TAC/SPIA and its secretariat. Given the decrease in total financial resources generated from Cosponsors' contributions, the Cosponsors endorsed a suggestion to broaden the base for financial support to TAC/SPIA.

TAC Membership

At present, TAC has 14 members (excluding the Chair). However, two members will complete their term at the end of 2000. The TAC chair recommended the filling up of one slot to strengthen the committee's capacity in basic science, (i.e. in molecular biology.) The Cosponsors endorsed the TAC Chair's recommendation, taking note that TAC's size and composition will need to be revisited in the

context of a restructured CGIAR. (Following ICW2000, the TAC chair agreed to defer any appointment to TAC until after MTM2001.

TAC/SPIA Membership

Currently, the panel has three members. However, two of them, Frans Leeuvv and Cristina David have indicated that they will not be able to serve on the panel after 2000. The cosponsors selected two candidates for appointment to SPIA for a two-year renewable term beginning January 2001. (Following ICW2000, the SPIA chair agreed to defer any appointment to SPIA until after MTM2001.)

Global Forum on Agricultural Research

Noting the results of the external review of the Global Forum on Agricultural Research (GFAR), the Cosponsors reaffirmed that the CGIAR's support will need to be based on the value that GFAR adds to CGIAR's activities, i.e. a clear recognition that the GFAR serves as an effective mechanism for drawing the perspectives and views of partners, particularly NABS, on global and regional issues that have implications on the CGIAR research agenda, and that the support is consistent with the CGIAR's objective of facilitating and strengthening global partnerships in agricultural research.

Search for and Recruitment of CGIAR Director

The Chairman, informed the meeting that the search and recruitment process for the CGIAR Director has been concluded. He planned to announce at Centers Week the appointment of Francisco Reifschneider as CGIAR Director, succeeding Alexander von der Osten who will retire from his post as Executive Secretary. Mr. Reifschneider will assume his new position on January 29, 2001.

Tribute to Roberto Lenton and Alexander von der Osten

The Cosponsors paid tribute to Roberto Lenton and Alexander von der Osten for their exemplary service to the CGIAR. Roberto is leaving his post at UNDP to take up a new position at Columbia University's International Research Institute for Climate Prediction. The Cosponsors expressed thanks and wished both of them well.

Report of the Twentieth Meeting of the Oversight Committee

The CGIAR Oversight Committee (OC) held its 20th Meeting at the World Bank, Washington between 20-27th October 2000, in conjunction with the CGIAR's 2000 International Centers Week Meeting.

Participating in the meeting were: Andrew Bennett (Chair), Emmy Simmons, Ruth Haug, Gilles St Martin, Juan Restrepo, and Selçuk Özgediz (Secretary). The OC interacted with the Chairman, the Finance Committee, the Chairman of TAC, the Center Board Chairs, and the Center Directors' Committee.

The OC agenda consisted of the following items:

1. *Introduction*
2. *CGIAR Vision, strategy and structure*

3. *Retrospective Review of the System Review*
4. *Due Diligence - Centers Governance*
5. *Due Diligence - System Governance*
6. *Membership and rotation*
7. *Interactions with other Committees*
8. *Any other business.*

The Chairman welcomed the Members of the Committee and noted that the membership of the OC is now:

- Andrew Bennett - Chair
- Bongiwe Njobe-Mbuli
- Ruth Haug
- Emmy Simmons
- Gilles St Martin
- Juan Restrepo
- Zhao Longyue

1. Introduction

The Chairman welcomed the members of the OC and noted that Bongiwe Njobe-Mbuli and Zhao Longyue would not be able to attend ICW2000. The agenda was adopted.

2. CGIAR Vision, Strategy and Structure

The OC discussed the conclusions and recommendations of the Sonning Synthesis Report of issues of “governance, organization and structure.” They noted that they had discharged the mandate from the Members to produce a synthesis report. They participated fully in the discussion of the report in plenary and in working groups at ICW.

The OC welcomes the openness and fullness of the discussions on governance, organization and structure at ICW, these allowed all parts of the CGIAR to participate and contribute. It welcomes and supports the action agenda set out in the Chairman's paper “Charting the Future of the CGIAR: The Next steps.” It emphasizes the importance of a transparent process between ICW and MTM that engages all the major stakeholders in the “next steps” process. The OC stands ready to help in any way that it can.

The OC further emphasizes the imperative of reaching clear decisions at MTM 2000. This would be greatly facilitated by the papers for the meeting issuing at least three weeks before the meeting, e.g. by the end of April.

3. Retrospective Review of the System Review

The OC took delivery of the report they had commissioned, entitled “Systemwide Reviews in the CGIAR: Concepts, Options and Recommendations,” prepared by a three person study team led by Martin Piñeiro. They discussed the conclusions and 15 recommendations set out in the report with Martin Piñeiro.

The OC congratulated the study team on an excellent piece of work. It was well researched, concise and clearly written. By taking a broad view of the three Systemwide Reviews and other reviews in the CGIAR, the team had been able to identify good practice and make some practical recommendations to guide future reviews in the CGIAR.

The main points were:

- The value of using expertise drawn from within and outside of the CGIAR in the review teams.
- The need to have a more systematic and managed approach to reviews, with a designated focal point in the CGIAR to oversee the reviewing processes.
- The need for reviews to build on the lessons and conclusions of earlier reviews.
- The importance of having and sticking to clear terms of reference.
- To space systemwide reviews on a 6-8 year cycle
- The value of documenting the process, conclusions and actions of reviews to ensure lessons are learnt.

The study team recommended that the OC should take on the role of “oversight” of the review process across the CGIAR.

The OC concluded that the report should be released to all the Members of the CGIAR during ICW2000. Its conclusions and recommendations would be a valuable input into the organizational change process associated with the 2010 Vision and Strategy.

In forwarding the report the OC invites comments from the Members of the CGIAR, according to this feedback will:

- ask the CG Secretariat to compile a register of the reviews recently completed, currently underway, and planned across the system, including donor reviews;
- set up a site on the CGIAR web page where reviews and their terms and reference can be seen;
- analyze the results of this register to identify gaps, overlaps and conflicts, with a view to providing guidance on opportunities for collaboration and better coverage of the system as a whole, without overloading the system; and
- report regularly to the CGIAR.

4. Due Diligence--Centers

- **Identifying CGIAR Nominees for Center Board Membership**

Given the current discussions on governance, organization and structure, the OC agreed to return to this issue at their next meeting.

- **Orientation Programme for New Board Members**

The effective functioning of the Boards of the Centers is essential to the health and performance of the CGIAR. It is therefore important that new board members are offered an orientation program to help them carry out their duties. The OC noted that the first course carried out after ICW 1999 was well attended and well received. A second course for 9 to 10 new board members was planned to follow on from ICW 2000. It supports the proposal to place the training/orientation materials in electronic format on the web.

- **CIFOR, ICRAF, ILRI and IITA - DG Succession**

The OC noted that the processes for identifying candidates for these critical posts are well underway. These processes are open and transparent but committee members expressed concern over the shortage of women candidates. The OC suggests that the search and selection committees should

wherever possible spread its search for suitable candidates into a wider pool of expertise and experience in the fields of management and development.

- **EPMRs**

The OC congratulates CIAT on an excellent EPMR. It notes that EPMRs for IITA, CIP, ISNAR and IFPRI are being planned.

The OC discussed the 'value added' and handling of these EPMRs at MTMs and ICWs. It concluded that it was very important that Members of the CGIAR have every opportunity to influence the terms of reference of these reviews, and to see the conclusions and recommendations. It was also important that the Members continue to see the comments by TAC and the responses of the management and Boards of the Centers. However there was some doubt as to whether discussions at MTM and ICW sessions add much value to the process. Given the advances in electronic communications and the enormous pressures on time at these meetings, the OC concluded that the discussion of the EPMRs be dropped from the agenda of MTM and ICW. However, to ensure that the Members could check on progress in implementing the conclusions and recommendations, it is suggested that regular progress reports be posted on the web.

- **WARDA**

The OC notes the difficulties currently faced by the staff at WARDA, **due to the political situation in Cote d'Ivoire**. The OC congratulates WARDA on their achievements in the development of NERICA rice and wishes to place on record its thanks to the staff of WARDA for their continuing commitment despite the difficulties they are facing.

- **Proposed IWMI and IBSRAM Merger**

While the OC fully understands the reasons why IBSRAM is keen to merge with IWMI, it reminds the parties concerned that the merger process should be transparent and subject to the processes of due diligence and be endorsed by the Members of the CGIAR.

5. Due Diligence – System

- **CGIAR Chair Succession**

The OC welcomes the new Chair, Ian Johnson, and looks forward to working with him as the CGIAR moves forward on the reform agenda.

The OC felt that the farewell seminar and ceremony in honor of Ismail Serageldin had been an excellent and very appropriate event. It looks forward to seeing the papers published.

- **Cosponsors**

The Cosponsors play an invaluable role in providing the System international status and legitimacy. They will be particularly important in maintaining confidence in the system at times of change. They also contribute generously to the costs of the Secretariats.

The OC welcomes the statements made by the President of the World Bank and the representatives of UNDP and FAO affirming their commitment to the CGIAR and their roles as Cosponsors. However, the OC notes their comments about their future capacity to continue to provide funding support for the central functions of the CGIAR at the current levels.

As the CGIAR moves forward with the reform agenda the role of the Cosponsors will need to be revisited. The possibility of adding to the number of Cosponsors who would be prepared to contribute to the costs of the Secretariats - such as other UN agencies, regional banks or Members - should be considered.

- **CGIAR – Director Succession**

The OC welcomes the announcement of the appointment of Dr. Francisco Reifschneider to be Director of the CGIAR Secretariat and looks forward to working with him.

The OC wishes to place on record its thanks to Alexander von der Osten for all that he has done over the years for the CGIAR as Executive Secretary of TAC, Director General of ISNAR and Executive Secretary of the CGIAR Secretariat. It wishes him a long and happy retirement.

- **Review of Plant Breeding**

The OC noted that this review raised some important issues that merited discussion at ICW 2000. It is likely that the reviews of system-wide, multi-center and partnership programs will continue to merit discussion in parallel sessions at the future meetings of the CGIAR. It welcomes the decision to make additional time available at ICW to discuss the conclusion of the review.

- **Funding Issues**

The OC welcomes the work done on a Long Term Financing Strategy for the CGIAR. The OC found its interaction with Finance Committee on the issues of identifying and classifying 'indirect costs' in the CGIAR and on the management of liquidity, very informative. It looks forward to learning how the FC will take this work forward, in the light of the comments by many members of the CGIAR on the need to focus on improving the efficiency of the CGIAR by reducing transaction costs and overheads.

- **MTM 2001 and ICW2001 Agendas**

The OC notes the continuing difficulties in predicting how the meetings will develop and incorporating all business into the time available. It welcomes the constructive flexibility shown by the members in responding to these challenges. Given the decision to reduce the numbers of 'big' meetings, it will be important to make increasing use of electronic systems to engage and consult with the Members of the CGIAR on issues that arise between the meetings.

- **Global Forum for Agricultural Research**

The OC congratulates Dr. Paroda and the GFAR on a positive external review of the work of the Forum. It notes the importance of developing and clarifying the partnership between CGIAR and the GFAR as part of the CGIAR reform agenda.

6. Membership and Rotation

The OC noted that it is now up to strength. Its current Chair will stand down at MTM 2001. It will agree who would be the next Chair and discuss the need for new members in Durban.

7. Interactions with other Committees

The OC interacted with the Finance Committee. The Chair of OC had several meetings with the Chairs of the Center Directors, Center Boards, TAC and Finance Committees and the Chairman over the **period** since MTM2000 on a wide range of issues.

Report of the Eighteenth Meeting of the Finance Committee

The report of the Finance Committee was presented by its Chair, Iain MacGillivray of Canada.

Agenda

1. **2000 Update**
2. **2001 Financing Plan**
3. **2002 Planning framework**
4. **Longer Term Financing Strategy**
5. **Financial Issues**
6. **Finance Committee composition**

The CGIAR Finance Committee held its 18th meeting on October 21 and 26, 2000. Members participating were Australia, Brazil, Canada (Chair), Germany, IFAD, JAPAN, Nigeria, Sweden, Switzerland, and the World Bank. The United Kingdom and United States observed the meeting.

1. 2000 Update

Context

At MTM00, funding was estimated to be at the ICW99 approved financing plan level of \$340 million. Funding from individual members continues to be in line with earlier expectations. However, weaker European currencies have continued to reduce the dollar value of the contributions with a consequence that the actual 2000 results are likely to be in a range of \$335-340 million. Excluding \$5 million of extra-ordinary financing (an advance of \$3 million from the 2001 World Bank allocation and drawing \$2.3 million from CGIAR reserves) arranged to cope with the EC default, 2000 funding from CGIAR investors is likely to be \$330-335 million – comparable to the 1999 outcome of \$330 million.

The pace of disbursements continues to be dismal. 44 percent of the projected funding was in hand at end September. This is the same level as in 1999. Three major investors USAID, Japan and EC, accounting for approximately \$83 million (24 percent of total), are likely to disburse in November/December.

Beginning 2000 the Secretariat has been requested by both USAID and the EC to disburse funds through the World Bank. Disbursement of USAID funds is almost complete. Negotiations are under way between the legal staff of EC and World Bank for finalizing the necessary contractual arrangements for disbursements. In addition to USAID and EC the Secretariat has also disbursed funds for other members. Inclusive of World Bank funding the Secretariat expects to disburse in the region of \$110 million in 2000.

The funding picture at the center level is consistent with their earlier projections. ISNAR and ILRI project funding is expected to be 12 percent and 5 percent lower than their approved respective

financing plans. All others expect to be above their financing plans. In aggregate, centers continue to estimate funding of about \$365 million. The excess over the CGIAR estimate is largely accounted for by higher center expectations from non-CGIAR donors and an optimistic assessment of restricted funding. If the center funding projections hold, about \$1.2 million in additional matching funding will be payable to several CGIAR centers, of which the principal ones are IITA, CIMMYT, CIP and IRRI.

Status of CGIAR reserve: At MTM00, the FC withdrew \$2.3 m from the CGIAR reserve of \$4.9 million depleting it to \$2.6 million. Since then, \$0.1 m has been allocated by the FC Chair to support the Longer Term Financing Strategy working group. The reserve stands at \$2.5 million.

Decisions

- Reconfirm the funding outcome of \$335-340 million as a prudent point of departure for 2001/2002 planning.

2. 2001 financing Plans

Context

Following the CGIAR resource allocation cycle, since MTM00 centers have prepared their financing plans for implementing the 2001 agenda approved at MTM00. TAC observations on the financing plan are available in the document prepared by TAC on this topic.

Centers propose 2001 financing plans requiring funding of \$356 million, lower than the \$370 million projected by them at MTM00, but higher than the CGIAR endorsed planning level of \$340 million. Validation of funding projections by the membership is underway.

Decisions

- *Overall CGIAR funding level for 2001 implementation: \$340 million, the same level as estimated for 2000.*
- *Subject to individual investors endorsing levels projected by centers, Confirm levels of identified funding projected by centers as their 2001 financing plans.*
- *Principles governing utilization of the World Bank contribution of \$45 million, its allocation and disbursement to individual centers.*

As shown below, \$38.7 million is already committed:

- \$3 million was disbursed to the centers at MTM00 as part of the EC adjustment package
- Center projections include \$35 million, corresponding to 11 percent of non-Bank funding of \$315 million; consistent with FC's MTM00 decision
- Support for travel costs of CGIAR committees (NGOC, PSC and SPC as well as GRPC) is projected at \$0.3 million
- Second year of a four-year commitment to IFPRI/ISNAR for the Agricultural Indicators project approved at MTM00. (\$0.4 million).
- New requests:
 - Nine requests from centers for special allocations totalling of \$7 million
 - Request from GFAR to support its operation – \$0.25 million
 - Request from CDC for \$0.5 million for implementing LTFS.

Proposed allocation of the remaining \$6.3 million:

- \$3.2 million to centers by increasing matching ratio from 11 percent to 12 percent.
- Special final allocation for GFAR to support its operation - \$0.25 million
- Retaining the remainder of \$2.8 million, a portion of which will be used to meet potential restructuring costs arising from ICW00 decisions on CGIAR strategy, governance and finance. Within this, \$0.5 million for immediate implementation of the LTFS, in close coordination with the Change Design & Management Team established at ICW00. Once the magnitude of resources required for restructuring is determined, the remaining funds will be allocated to centers.
- Authorization to disburse the approved allocations on January 1.

3. 2002 financial planning framework

Context

The CGIAR resource allocation process for 2002 will be initiated at ICW00. TAC will outline factors guiding the preparation of the 2002-2004 medium term plans with a focus on 2002. The FC is expected to provide guidance on the financial prospects.

Decisions

- *Preparation of 2002 plans should be based on a planning framework of \$340 million.*
- *Confirm TAC recommendations for specific program guidance in preparing the 2002 plans.*
- *Commission preparation and distribution of guidelines for preparation of the 2002-2004 Medium Term Plans by the centers. The plans will be presented as a set of projects using the CGIAR logical framework adopted at ICW98.*

4. Longer Term Financing Framework

Context

At MTM99, the CGIAR endorsed the proposal by the Consultative Council to prepare a longer term financing framework and resource mobilization/public awareness structures for its implementation. Alex McCalla, then Chair of the CGIAR Finance Committee is leading the effort. The FC has engaged the Conservation Company whose work is guided by a working group comprising members (Canada, Sweden), CGIAR Committees (CDC, CBC and PARC) and Public Awareness/Resource Mobilization professionals (Public Awareness Association (PAA), Resource Mobilization Network (RMN), and the Secretariat). The consultants have interacted extensively over the past fifteen months with center professionals, center management, and CGIAR members.

The working group has reported to the FC and the CGIAR at ICW99 and MTM00. Based on these reports, the following strategy has been endorsed:

"CGIAR Longer Term Financing Strategy is based on the continuation of ODA funding at present levels from DAC countries, and international institutions supported by ODA funds, expansion of Southern financial participation and non ODA and private sources. To implement this strategy, the CGIAR would expand and restructure the current public awareness and resource mobilization activities and put in place a single mechanism building on Future Harvest, the inter center organization."

A final proposal consisting of a business plan for a new organization based on Future Harvest—the inter-center PA/RM organization—was presented at this meeting. The working group considers that with this report its work is now completed.

Decisions

- *Endorse the proposed financing strategy and recommend its adoption by the CGIAR.*
- *The CGIAR should take immediate steps to ensure that the proposed business plan is implemented.*

5. Financial issuesContext

The CGIAR Secretariat is collaborating with center finance professionals, and outside experts as necessary, in pursuing a program on financial issues that underpins prudent and cost effective use of resources by centers. Implementation of some of the issues requires action by the membership as well. At its previous meetings the FC has reviewed progress reports on issues such as accounting policy, exchange rate management, indirect costs, internal auditing, financial guidelines and financial systems.

- At the eighteenth meeting, the FC reviewed the proposal (presented by Kwame Akuffo-Akoto, Director of Finance, ICRISAT on behalf of an inter center working group) tabled for adopting a refined methodology for determining indirect costs. The methodology has been tested by all centers. A guideline will be issued to implement this methodology. CGIAR members will be asked to ratify this guideline over the next few months.
- A progress report was provided (presented by Gordon MacNeil, Director of Finance, IRRI on behalf of an inter center working group) on the proposal to improve the management of center cash resources and increase the average return on investment by pooling resources among centers.

Report by United States

A report was presented by USAID (Bertram and Dalrymple) on new mechanisms to allocate World Bank funding. The mechanisms would be aimed at protecting the CGIAR heartland and to provide incentives for CGIAR investors to contribute more unrestricted funding. The FC found the paper informative and expects the Change Design & Management Team, established at ICW00, to consider it in their deliberations

Decisions

- *Endorse the proposal to move towards a uniform approach by centers and investors for determining indirect costs. The Secretariat will shortly issue a guideline for ratification by members of the proposed policy.*

6. Finance Committee CompositionContext

Members of the Finance Committee are elected through membership caucuses, in principle, with three year staggered terms. (DAC countries have six members of which three are European; developing countries have two; and institutions/foundations have two of which the World Bank is one.). Membership of the Finance Committee rotates between individual caucus members on a three-year cycle. The FC membership is also linked with the membership of the Oversight Committee to avoid overlapping memberships on FC and OC. (The CGIAR Chairman in consultation with the OC appoints members of the OC. OC members serve in their personal capacities.)

At ICW99 Brazil and Nigeria were elected to replace India and Egypt in 2000. Switzerland was elected in place of European Commission, and Australia was elected to another three-year term. Unless vacancies arise from OC rotation, or if there are unexpected resignations, there is no need to hold elections for new members until MTM01. At ICW99, Canada was elected to a one-year term as the Chair

of the Finance Committee. The World Bank has indicated its willingness to serve as the Chair at the completion of Canada's term.

Decisions

- *The World Bank will resume its Chairmanship of the CGIAR Finance Committee.*

TAC Chair's Report

1. This TAC Chair's report brings the Group up-to-date on the Committee's activities since MTM00, highlighting progress or accomplishments in the principal areas of TAC's responsibility:

- (a) assuring the quality and relevance of Center science;
- (b) developing priorities and strategies,
- (c) recommending resource allocations and monitoring program implementation;
- (d) reviewing strategic considerations within the external environment, and
- (e) ensuring assessment of the CGIAR System's impact.

(a) Assuring the quality and relevance of Center science.

2. One of the principal means by which TAC carries out its responsibility to assure the quality and relevance of Center science is by conducting external reviews to evaluate Center and Systemwide programs. Since MTM00, two such reviews were completed and progress was made in implementing two others.

3. The Group has had the opportunity to consider at this meeting the report of the Systemwide Review of Plant Breeding Methodologies chaired by Dr. Don Duvick (USA) and TAC's Commentary on the report. This review was conducted in response to a recommendation of the Third System Review and builds upon earlier TAC commissioned studies in the areas of biotechnology and proprietary science. The Group has also had opportunity to consider at the present meeting the report of the Fifth External Programme and Management Review of CIAT chaired by Dr. Ronnie Coffman (USA), and TAC's Commentary.

4. The Fifth EPMR of IITA, which is being chaired by Dr. Ken Cassman (USA), is underway with a panel of six experts. It will be completed in 2001 and the review report considered by the Group at ICW01. Planning and organization of the Fifth EPMR of CIP, which will be chaired by Dr. Ed Schuh (USA), is advancing; the panel profile is being developed in consultation with the Center. The review will be implemented in 2001- 2002 and the panel's report considered by the Group at ICW02. In view of TAC's responsibilities with respect to the CGIAR Vision and Strategy exercise, the Committee has deferred the scheduling of the Fourth EPMR of ISNAR and the Fifth EPMR of ICRISAT until mid-2002. The Centers have been informed accordingly.

5. By way of follow-up to a recommendation of the Third System Review, TAC, supported by its Standing Committee on External Reviews, is organizing an overall review of the evaluation process within the CGIAR. In consultation with CBC/CDC, the CGIAR Secretariat and other stakeholders, a small working group meeting is planned for January 2001, with a view to reporting to MTM01.

6. Building on the external reviews of the Systemwide Genetic Resources Program and of the Ecoregional Programs, TAC plans to carry out in 2001 selective reviews of three other Systemwide programs, including those of a thematic nature. The Committee is in the process of consulting the Centers involved. At least one of these reviews will include an impact assessment component.

7. Finally, as part of its effort to encourage scientific innovation, TAC at its 79th Meeting considered seven submissions for the King Baudouin Award in the light of criteria previously established by the Committee. TAC took decision and prepared a commentary on the winning submission. It also worked closely with the CBC Chair in advising on the selection for the Chairman's Science Awards. These awards will be announced at ICW00.

(b) Developing priorities and strategies

8. Since my last report, TAC has continued to work, in concert with other stakeholders, on the CGIAR's 2010 Vision and Strategy. At MTM00, the Group endorsed a new vision, mission, and goals for the CGIAR and requested the Committee to finalize its recommendations on the System's strategy, taking into account comments received from the Members. It also requested TAC to elaborate the implications of the seven strategic planks for structure and governance. The Committee undertook this work at the Special TAC Meeting held at ISNAR, The Hague, 23-25 August. It also commissioned a second electronic conference on structure and governance facilitated by RIMSP. The Committee completed its work at its 79th Meeting held at IITA, Ibadan, 25-29 September. TAC's paper on structure and governance presented the Committee's views and also commented on the submissions from the CBC/CDC, EIARD, and other stakeholders. The TAC Chair presented the results of the Committee's deliberations to the meeting of the Synthesis Group, Sonning, United Kingdom, 4-7 October. TAC's two final reports—on vision and strategy and structure and governance—are made available to the Group at the present meeting.

(c) Recommending resource allocations and monitoring program implementation.

9. TAC 79 reviewed the 2001 Financing Plans prepared by the CGIAR Centers. Financial analyses of the plans had been compiled and synthesized by the CGIAR Secretariat and made available to TAC. The Committee assessed the implications of the plans for CGIAR priorities and strategies, their consistency with the Centers' Medium-Term Plans, their conformity with the 2001 Research Agenda approved by the Group at MTM00, and the programmatic implications of potential financing gaps. TAC then prepared a report for the Finance Committee certifying that the 2001 financing plans for all Centers were broadly congruent with the Research Agenda endorsed by the Group at MTM. The Committee reemphasized to the Group some of the broad concerns, which it had raised in its initial analysis of the 2001 Research Agenda. The report has been made available to ICW00.

(d) Reviewing strategic considerations within the external environment.

10. TAC's ongoing work on the System's likely research portfolio in 2010 contributed to the Vision and Strategy exercise in that a number of the themes under study were central to the Committee's thinking as it developed the CGIAR's new program strategy – particularly developments in intellectual property rights, molecular biology and biotechnology, production ecology, international legal and regulatory frameworks affecting genetic resources, information and communications technology, and factors influencing poverty. With regard to the last mentioned, TAC commissioned a study by IFPRI on CGIAR Research and Poverty Reduction. Now that the vision and strategy exercise has been completed, the Committee will revisit its plan to systematically investigate these and other domains likely to influence CGIAR priorities and strategies by convening panels of outside experts and commissioning in-depth studies. The Committee continues to follow the activities of inter-center mechanisms for INRM and Climate Change as a complement to its monitoring function. As well, it participates on the Genetic Resources Policy Committee.

(e) Ensuring assessment of the CGIAR System's impact.

11. Following-up the decision by the Co-sponsors at ICW99, TAC has taken steps to progressively integrate the Standing Panel on Impact Assessment (formerly IAEG) into the Committee's work. To further develop co-ordination of the impact assessment activities of SPIA with those of TAC's Standing Committees on Priorities and Strategies (SCOPAS) and on External Reviews (SCOER), the Chairs of these committees will have cross-membership on SPIA and vice versa. In keeping with its "arms length" status *vis-à-vis* TAC, SPIA has reported on its activities directly to the Group under a separate agenda item.

A Closing Remark

I would like to close by saying that, during the past year, TAC has been intensively involved in the task with which it was entrusted by the Group at ICW'99 - namely, to lead in concert with other stakeholders, the CGIAR's Vision and Strategy exercise. In carrying out this responsibility, the Committee's work has been facilitated by the cooperation of the Centers, Board Chairs, and Members as well as by the CGIAR Secretariat, other CGIAR advisory committees, the Global Forum for Agricultural Research, and the many individuals who participated in the two electronic conferences. It is our hope that the spirit of participation, which characterized this exercise, will continue as the CGIAR seeks to reposition itself in the global agricultural research system.

Report of the 11th Session of the Genetic Resources Policy Committee

**ISNAR, The Hague, Netherlands
6-8 September 2000**

Participants

Members:	M. S. Swaminathan, Chairman	Observers:	Stein Bie, ISNAR
	Usha Barwale, TAC		June Blalock, USDA/ARS
	Robert Bertram, USA		Susan Bragdon, IPGRI
	Ron Cantrell, CDC		Joel Cohen, ISNAR
	Marcio de Miranda Santos, CBC		Helen Cordell, Argonne National Laboratory
	Pepe Esquinas, FAO		Barry Greengrass, UPOV
	Carmen Felipe Morales, NGOC		Victoria Henson-Apolonio, CAS, ISNAR
	Christina Grieder, Switzerland		Chagama Kedera, KEPHIS
	Geoffrey Hawtin, Secretary		Manuel Lantin, CG Secretariat
	Bernard Le Buanec, PSC		
	Timothy Reeves, CDC		
	Carl-Gustaf Thornström, Sweden		
	Cary Fowler, Resource Person	Apologies:	Godwin Mkamanga, NARS

Provisional Agenda:

1. Update on renegotiation of the International Undertaking
2. CGIAR governance, organization and structure
3. Genetic resources endowment fund initiative
4. Update on the FAO-Center agreements

5. New CGIAR IPR Guidelines
6. Report on the Central Advisory Service (CAS) Steering Committee
7. Update on GFAR genetic resources initiative
8. Outcome of COPV and update on developments in CBD and other fora (WTO, WIPO, UPOV etc.)
9. WHAT Commission Report
10. Report for ICW
11. Next meeting: date, place, agenda
12. Other business

Agenda Item 1: Update on Renegotiation of the FAO International Undertaking (IU)

1. Substantial progress was made in the August, 2000 negotiating session of the Chairman's Contact Group of the FAO Commission on Genetic Resources, held in Tehran, Islamic Republic of Iran. Major issues were clarified and progress was made concerning Articles dealing with Access and with Benefit-Sharing under the proposed multilateral system for Plant Genetic Resources for Food and Agriculture (PGRFA). Completion of the negotiations in the near future is now a distinct possibility, though a number of complex and contentious technical and political issues remain to be resolved.

2. A widely held view emerged in Tehran that royalties will be paid to an agreed mechanism or fund, whenever the use of PGRFA accessed under the IU results in a product protected by any form of intellectual property rights that restricts utilization of the product for research and plant breeding. In addition, rights-holders of other kinds of intellectual property rights or commercial protection will be encouraged to make voluntary payments, with this provision being reviewed in five years to assess the possibility of its conversion to a mandatory scheme. In addition, the Contact Group agreed on text for most of the Article dealing with the terms of facilitated access under the multilateral system.

3. Included among the issues yet to be resolved, are:

- Which crops (genera) will be covered under the multilateral system. Regional proposals differ widely, with Africa proposing 9 crops and Europe 287. The African, Asian, and Latin American proposals omit a number of crops with which CGIAR centers are currently working, a point which was viewed with great concern by the GRPC.
- How components of accessions (genes, cell lines, organelles, constructs, etc.) will be addressed, particularly in regards to whether intellectual property rights can be sought for such materials acquired in whole or part from the multilateral system.
- Whether access to PGRFA may be sought for the express purpose of "conservation," a purpose that would support CGIAR centers in fulfilling their role of maintaining extensive collections under conditions ensuring long-term conservation.
- How non-Parties to the IU (countries that choose not to ratify the agreement) and institutions that are not associated with the agreement, will be treated. The GRPC noted with some concern that potentially, access restrictions might be imposed on non-Parties to materials currently held by the CGIAR (conceivably including countries that had originally supplied the material, donors of funds that were supporting conservation and improvement of the material for the resource-poor, etc.)
- What type of "agreed and predictable" financial arrangements will be made to support implementation of the IU? (arrangements not linked with the tentatively agreed commercial royalty scheme) What will the funding target be?

4. Conclusion: The GRPC strongly believes that all main crops on which the CGIAR works should be included on the list of crops that constitutes the scope of the multilateral system. Omission of any of these crops might send a signal that either the crop is not viewed as particularly important or that

conservation and breeding work can effectively be handled solely by national governments without multilateral or CGIAR assistance. The Committee requested IPGRI to produce and circulate among CGIAR members, a table showing the full range of crops being worked on by the CGIAR, including those held in Center collections, those undergoing genetic improvement, and those associated with other aspects of Center research.

The GRPC recognizes that among the accessions currently designated by centers are materials of certain minor or “non-mandate” crops unlikely to be included on the “list” for the multilateral system. These specific accessions, now held “in trust for the international community,” should remain available within the multilateral system. The GRPC would also be concerned if restrictions were placed on access by non-parties to materials held by the CGIAR. Such restrictions could undermine collaborative research and reduce funding aimed at producing international public goods by the centers. The Committee also considers that it would be important to include in the multilateral agreement those crops, which are the mandate of other international organizations such as, for example, vegetables for AVRDC. Finally, the GRPC took note of recent IPGRI research on germplasm flows that dramatically demonstrates both the interdependence of countries for PGRFA, and the extent to which countries receive materials from the CGIAR. The research indicates, among other things, that virtually all countries, regardless of development status, are major net recipients of germplasm samples from the CGIAR, and have been since the 1970s (*Germplasm Flows Between Developing Countries and the CGIAR: An Initial Assessment* by Cary Fowler, Melinda Smale and Samy Gaiji, GFAR/IPGRI, in press. Copies available from IPGRI on request).

5. Since some of the recommendations made under this item deal with matters presently under negotiation by Member Countries of FAO in the context of the International Undertaking on Plant Genetic Resources, the representative of FAO, who is also Secretary of the intergovernmental Commission on Genetic Resources for Food and Agriculture, which is negotiating the Undertaking, considers it institutionally appropriate to reserve his position at this stage

Agenda Item 2: CGIAR Governance, Organization and Structure

6. The process being undertaken for reviewing and revising the governance, organization and structure of the CGIAR was described. Particular attention was given to the outcome of the CDC/CBC retreat held the previous weekend at ISNAR. The Centers are proposing to form a federation, which would have an independent legal body to provide federation-wide services. While individual Centers (the form and number of which is expected to evolve over time) will remain autonomous, certain decision-making authority will be delegated to the board of the federation unit. This board would not be representative (no current DGs or Board Chairs would serve on the board) but be comprised of individuals serving in their personal capacity. Central services provided might include IPR advisory and management services, support and governance for multi-Center or Systemwide programs and initiatives, resource mobilization, and the formulation of system-wide policies, e.g., on genetic resources. The federation unit would also be a logical home for future Systemwide support of the kind provided by the CGIAR Secretariat.

7. **Conclusion:** The Committee noted that these proposals for strengthening the organization of the system are likely to have significant implications for the role, composition, and even the continued need for the GRPC. Thus, the Committee will continue to monitor developments in this regard and make recommendations on its future at an appropriate time.

8. The Committee also noted that in the electronic conference several suggestions had been made for combining the genebanks within a single management entity. The Committee stressed the importance of the genebanks continuing to be managed in such a way that maximum synergies can be achieved between the conservation work of the genebanks and the Center breeding programs that continue to be the primary users of the materials conserved. Obviously, in making such far reaching changes, the provisions in the legal

agreements between Centers and their host country Governments will have to be kept in view by the respective Boards of Trustees.

Agenda Item 3: Genetic Resources Endowment Fund Initiative

9. Consideration of how financing for the long-term conservation of PGRFA collections can be ensured has a long history. Recently the CGIAR Finance Committee, the SGRP, Future Harvest, and the Conservation Company have been involved. A feasibility study has now been commissioned by IPGRI to assess the possibilities of raising a substantial amount of money to establish an endowment fund (or a similar mechanism to support long-term conservation). It is planned that this study be completed prior to MTM 2001.

10. Subject to the findings of the feasibility study, it is envisioned that a fundraising “campaign” will be launched having four elements: (1) upgrading of CGIAR genebanks to meet international standards, (2) provision of funding for long-term maintenance of the “in trust” collections, (3) development of a global system (including CGIAR, national, regional and international collections), and (4) funding of that system.

11. **Conclusion:** The GRPC stressed that the CGIAR is committed to (1) ensuring that it can carry out the obligations it has assumed in the FAO-CGIAR agreements concerning “in trust” germplasm, and (2) implementation of the FAO Global Plan of Action. The solicitation of funds and the possible creation of an endowment fund should be seen as means of meeting these responsibilities. The CGIAR’s interest, however, is broader; thus it sees the possible campaign as a way to generate support not just for CGIAR-maintained collections, but also for national and regional collections. The over-riding aim is to ensure the long-term conservation of a major portion of the world’s PGRFA in an efficient, effective manner. To achieve this goal, a rigorous, scientifically-based, consultative process will need to be initiated to identify relevant collections, appropriate facilities, etc. IPGRI is now undertaking these initial scientific studies.

12. The GRPC expressed concern that the efforts described above might be misconstrued and that some might feel that it was an attempt either simply to seek funds exclusively for the CGIAR or to divert funds from the proposed multilateral system under the FAO International Undertaking to the CGIAR. The GRPC wishes to make it clear that this is not the case. It is first, an understandable and legitimate effort to meet our obligations. But, more importantly it is an effort to ensure the conservation of the existing diversity of the world’s PGRFA. Moreover, it is anticipated that this initiative would aim to secure funds primarily from non-traditional sources, unavailable to the mechanisms foreseen under the IU. The GRPC felt that a paper outlining CGIAR intentions and expectations would be useful in explaining the effort and generating support. The Committee also noted that the CGIAR might make use of events surrounding “Rio +10” and “Stockholm + 30” to promote a major initiative to generate sustained and long term support for the conservation of PGRFA.

Agenda Item 4: Update on the FAO-CGIAR Agreements

13. Centers will soon provide FAO with an updated list of designated germplasm totaling approximately 514,000 accessions – a modest increase over the previous total. Several centers have used the occasion for improving the accuracy of their own databases, and reducing redundancies in the reporting to FAO. The agreements with FAO have worked very smoothly during the past year. There have been no new allegations of abuses. In one case, the patenting of the yellow “Enola” bean in the US, a center has initiated legal action against the patent holder. The center—CIAT—was not obliged to do so (the patent-holder did not obtain its materials from CIAT, and thus, there was no MTA to enforce), but chose this action in the belief that the patent effectively covered materials held “in trust” by the center. CIAT believes that the patent improperly covers pre-existing materials. The center has asserted its intention to continue to distribute essentially “identical” designated materials.

14. **Conclusion:** The GRPC conveys its appreciation for the actions of CIAT. The Committee noted and expressed its concern that improper application of patent laws in some countries create situations, such as the yellow bean patent in the US, that have the effect of complicating and undermining negotiations of the FAO IU.

Agenda Item 5: New CGIAR IPR Guiding Principles

15. The GRPC considered the draft IP Guiding Principles, which had been prepared by Susan Bragdon of IPGRI on behalf of the CDC. The draft was widely distributed to all Centers, CAS, and others for their input.

16. **Conclusion:** The GRPC proposed a revised version, which is attached as Annex 3 to this report. (The outcome of the discussion at ICW2000 (GRPC/CDC) regarding the proposed new guiding principles on IP.)

17. It was suggested that it would be worthwhile to develop guiding principles on intellectual property generally, rather than limiting the guiding principles to those intellectual property issues relevant to genetic resources. If a decision is taken to expand the coverage of the Guiding Principles it was suggested that the advice of CAS should be sought.

18. The GRPC noted that the Guiding Principles will have to be reviewed and revised as appropriate after the conclusion of the IU revision.

19. Since some of the issues dealt with in the CGIAR IPR Guiding Principles are presently under negotiation by Member Countries of FAO in the context of the International Undertaking on Plant Genetic Resources, the representative of FAO, who is also Secretary of the Intergovernmental Commission on Genetic Resources for Food and Agriculture, which is negotiating the Undertaking, considers it institutionally appropriate to reserve his position at this stage.

Agenda Item 6: Report on the Central Advisory Service (CAS) Steering Committee

20. The Steering Committee of the Central Advisory Service met for the two days prior to GRPC11. The GRPC noted the Steering Committee's unanimous agreement that there is a continuing need for a CAS to foster and facilitate sharing of experience among the Centers and to provide them with information on relevant IP trends and developments and as a referral service for IP issues as they arise. The Committee noted the distinction between these terms of reference and work related to policies and policy development.

21. **Conclusions:** To foster coordination between the CAS and GRPC it was recommended that the head of CAS be an ex-officio member of the GRPC and that IPGRI have a permanent seat or be an ex-officio member of the CAS Steering Committee.

22. The GRPC suggested that the CAS use the IP audits to synthesize common IP issues facing Centers. Recognizing that Centers will make a decision in the near future about further funding of the CAS, the importance of the CAS focussing on its mission of providing a service to the Centers is paramount.

Agenda Item 7: Update on GFAR Genetic Resources Initiative

23. The GRPC received a report on the recent activities of GFAR, including the upcoming publication of a book containing articles on topical PGRFA issues first tabled at the GFAR meeting held in

conjunction with MTM 2000 in Dresden. There was a discussion of GFAR's future plans in regards to genetic resources.

24. **Conclusions:** The GRPC viewed the recent work of GFAR as quite positive and encouraged further cooperation and collaboration. It expressed concern, however, over some recent developments that indicate that GFAR might be taking on the role of an “implementing agency” in this field. The GRPC observed that the original intention—and the acknowledged need—was for a forum that would help air views, involve stakeholders and strengthen partnerships.

Agenda Item 8: Outcome of COP V and Update on Developments in CBD and Other Fora

25. The GRPC was briefed on the outcome of COPV, in particular, its decisions on access to genetic resources, agrobiodiversity and Article 8(j) and related provisions dealing with indigenous and local communities. The negotiations on access were political and difficult with old issues regarding the best institutional location for the revision of the International Undertaking arising again. The decision ultimately supported the IU revision under the FAO and called for its speedy completion. It also called for Parties that are promulgating national access legislation to leave sufficient flexibility for joining a multilateral system. The Expert Panel on Access and Benefit-Sharing was reconvened. Finally, the decision noted the difficulties in understanding and reaching consensus on the relationship between intellectual property rights and access and benefit-sharing. It did, however, note the importance of *sui generis* approaches in this regard.

26. The decision on agrobiodiversity noted the leadership of FAO in implementing the CBD work program in this area. It explicitly calls upon the CGIAR to support this work. The decision also calls for study of “Genetic Use Restriction Technologies” (GURTS) to continue noting in particular the need to understand its effects on indigenous and local communities and the elaboration of farmers' rights. The decision on Article 8(j) called for the continuation of the Intersessional Ad-Hoc Working Group on Article 8(j) and related provisions. It also noted the importance of *sui generis* approaches for the protection of the innovations of indigenous and local communities.

27. The GRPC was briefed on a series of case studies put out by the World Intellectual Property Organization (WIPO) on intellectual property rights and the innovations of indigenous and local communities. WIPO has circulated the case studies widely and asked for comments. It was agreed that if the deadline allowed, IPGRI would coordinate a system-wide response to the document.

Agenda Item 9: WHAT Commission Report

28. Biodiversity is one of the priority areas of the World Humanity Action Trust (WHAT). Their recent report suggests the establishment of a consultative forum on biodiversity (on the model of the Climate Change Panel) that would include UN agencies, CGIAR, UPOV, WIPO and others. This non-political panel would be composed of high-level professionals and scientists. The GRPC was informed of the various recommendations of the report, *inter alia*, on funding, incentives for the private sector, the use of biodiversity and the promotion of a multilateral system, and international collaborative projects.

Agenda Item 10: Report for ICW

Agenda Item 11: Next Meeting: Date, Place, Agenda

29. The Committee received and welcomed an invitation by Usha Barwale to hold the next meeting in India at the end of January or end of February 2001 (the date to be decided after further consultations).

Agenda Item 12: Other Business

Report by RAFI

30. The Chairman and several Committee members had received copies of a draft press release and study by Rural Advancement Foundation International (RAFI) entitled: *In Search of Higher Ground: The Intellectual Property Challenge to Public Agricultural Research and Human Rights and 28 Alternative Initiatives*. The Committee discussed the documents at some length and several inaccuracies were pointed out. It also noted that some of the issues, such as those that invoke or concern human rights, are the subject of a broader debate in other international fora. While appreciating the fact that RAFI had provided advanced copies of the study, the Committee agreed that it would not be appropriate to respond with a detailed point-by-point analysis of the documents.

31. **Conclusion:** The Committee prepared, for the attention of the members of the CGIAR, the following statement of general principles relating to the issues raised by RAFI:

32. The CGIAR has continually produced an extensive range of global public goods over a long period, and remains committed to this ethos, to enhance food security, to reduce poverty, and to protect the environment. Genetic resources management (conservation and use) in the Centers has resulted in products that have had substantial and positive impact on the social and economic well-being of their partners in developing countries.

33. The challenge to keep these global public goods in the public domain for the benefit of the resource-poor in the South has been more complex for a range of reasons:

34. Firstly, the rapidly changing IP environment means that more decisive action is required to ensure that the products of CGIAR research with its partners remain in the public domain unfettered by the IP claims of third parties. For this reason the CGIAR retains the right to defensive protection of inventions when this is in the best interest of the resource-poor. The conditions for such actions are laid out in the Guiding Principles.

35. Secondly, as the challenges of food security, poverty alleviation and environmental protection have become more complex, it has become even more important to ensure that all appropriate technologies are harnessed. This requires more extensive collaboration with partners—South and North; public and private; governmental and non-governmental—necessitating clarity on the management of IP. Accessing the technologies of others to address the challenges and opportunities of the resource-poor is a key component of this approach and is only possible with enhanced attention to IP management. The overall objective of these partnerships is to develop better products and deliver them more quickly for the benefit of the resource-poor.

36. Given the CGIAR's continued commitment to the production of global public goods and the desire to keep these in the public domain, the Committee has proposed some revisions and refinements in the Centers' Guiding Principles on IP and Genetic Resources. These, together with the previously tabled statements on ethical principles, Biotechnology, and dealing with the private sector, provide the framework for the Centers' work with their partners. The GRPC firmly believes that the revised guidelines enable the CGIAR to adopt new tools and strategies to keep faith with its mission.

37. In order to strengthen the Centers' capacity to address IP management issues, the Centers have established the Central Advisory Service (CAS) on IP. Located in ISNAR, the CAS serves the Centers' needs by providing and facilitating expert advice and enhancing exchange of knowledge and experiences.

38. The Committee disagrees with the expressed view that the CGIAR guidelines and centers' policies on IP "compromise public goods in favor of corporate interest," and that they constitute a violation of human rights. They have been formulated precisely to protect the interest of resource-poor farmers in developing countries by enhancing their access to technologies that otherwise would remain in the private domain. In this sense, they promote rather than violate the human rights of people in the South in terms of greater access to genetic resources and technologies that contribute to poverty reduction and food security in line with the mission of the CGIAR.

Draft Terms of Reference for an IPR Audit at the Swedish University of Agricultural Sciences

39. The Committee received a report on this subject from Carl-Gustaf Thornström, who stressed the need for such audits in public institutions, for legal as well as for educational purposes.

40. **Conclusion:** The GRPC commended Dr. Thornström for this useful initiative and his personal efforts in this regard.

World Food Prize

41. The GRPC was informed that two CIMMYT scientists had won the World Food Prize for 2000 for their work on Quality Protein Maize.

42. **Conclusion:** The GRPC extends its congratulations to Drs. Eva Villegas and Sam Vasal, and to CIMMYT. It notes that this research demonstrated not only the quality of CGIAR science, but also the value of genetic resources (the achievement is the result of 20+ years of work) with a recessive gene linked to several deleterious traits and of core, unrestricted funding that underpinned the long-term research needed to overcome substantial technical obstacles on the way to producing materials that offer superior nutritional advantages.

ANNEX 1

Guiding Principles for the Consultative Group on International Agricultural Research Centers on Intellectual Property Relating to Genetic Resources

**Proposed by the GRPC at its Eleventh Meeting
6-8 September 2000**

CONTEXT

The CGIAR is committed to the conservation and use of genetic resources in an efficient, cost-effective and equitable manner. Developments in the last five to ten years have significantly changed the policy environment affecting the management of genetic resources. The expansion and increasing complexity of relevant policy issues present challenges and opportunities to the CGIAR in pursuing its mission. Some of the most significant issues include farmers' rights, the rights and interests of indigenous and local communities, prior informed consent, benefit-sharing, access to genetic resources, patenting, and *sui generis* protection of plant varieties. Developments in the field of intellectual property rights have arguably been the most dramatic. This is particularly true with regard to the application of intellectual property rights to biological materials and processes. The CGIAR has a responsibility to be alert to these changes and to adopt new tools and strategies to enable it to keep faith with its mission. It is in this context that the CGIAR has examined and will continue to examine its Guiding Principles on Intellectual Property Rights and Genetic Resources.

BACKGROUND

At its Mid-Term Meeting in Istanbul, in May 1992, the CGIAR agreed on a set of working principles on genetic resources and intellectual property. These were published in the proceedings of the meeting and were largely based on a set of guiding principles on plant genetic resources and related intellectual property rights issues adopted by the Centers in 1991.

The entry into force of the Convention on Biological Diversity in 1993, the 1994 agreements between the Centers and FAO bringing designated germplasm under the auspices of the FAO as part of the International Network of *Ex Situ* Collections, and the entry into force of the Multilateral Trade Agreement embodying the Agreement on the Trade-Related Aspects of Intellectual Property Rights (TRIPS) in 1995, prompted the CGIAR to convene a panel on intellectual property rights in September 1994 under the Chairmanship of Dr. M. S. Swaminathan. The report of the panel was endorsed at International Centers Week in October 1994. Based on the agreed recommendations made in this report the CGIAR Centers revised and endorsed their guiding principles on intellectual property in 1996.

Since the 1996 revision, the legal and policy environment has continued to evolve. Developments affecting the conservation, exchange and use of genetic resources include:

- The use of intellectual property rights, including patenting to protect plant varieties and/or their components, has expanded dramatically creating an uncertain but arguably more restrictive environment for the use and deployment of genetic resources. Methods and technologies of critical importance to the research function of CGIAR centers are also increasingly protected by intellectual property rights, rendering access and use more problematic. The rise of broad, so-called “blocking” patents raises the possibility that intellectual property rights might be employed in ways that could restrain existing and/or future research.
- The deadline for implementing PVP legislation in accordance with Article 27.3(b) of the TRIPS Agreement was reached for most countries. Disagreement about the nature of the review process required by that article continues to be discussed by the TRIPS Council. In addition, UPOV 1991 entered into force in 24 April 1998 foreclosing the possibility for countries to adhere to UPOV 1978.
- Negotiations to revise the FAO International Undertaking on Plant Genetic Resources, which began in 1994, have not yet been concluded. These negotiations are addressing questions concerning the ownership and control of plant genetic resources, and more specifically, are centering on the issues of access to and benefit-sharing associated with plant genetic resources. As such, the talks are likely to have a major impact on CGIAR-held germplasm collections, their management, use, and future terms of access by others – issues that are linked to questions of intellectual property rights. Progress has been made in agreeing on text on farmers’ rights. The agreed language indicates that countries are likely to have wide discretionary authority in terms of how they define and apply farmers’ rights in the national context.
- The FAO and the CGIAR issued two joint statements, in 1994 and 1998, respectively, clarifying certain issues with respect to implementation of the 1994 agreements. Among other things, the statements established material transfer agreements (MTA) as a means through which designated germplasm could be kept in the public domain. The text of the MTA was jointly agreed between FAO and the Centers. It requires recipients of designated germplasm to forego claims of ownership or intellectual property over the material received. The joint statements set out agreed procedures to handle any alleged violations.

GUIDING PRINCIPLES

I. Purpose

The Guiding Principles are intended to:

- Guide and assist Center decision-making in matters related to the acquisition, management and/or use of intellectual property;
- Elucidate the principles by which the Centers are guided in managing intellectual property for donors and all partners in research and development, which include national research and extension organizations, non-governmental organizations and the private sector; and
- Promote the human right to access to food.

II. General Philosophy

- (i) The management of intellectual property by Centers will be guided by the CGIAR mission to contribute to food security and poverty eradication in developing countries through research, partnerships, capacity building and policy support.
- (ii) The Centers will manage intellectual property issues with integrity, equity, responsibility and accountability and in accordance with the CGIAR Ethical Principles Related to Genetic Resources.
- (iii) The CGIAR does not view the protection of intellectual property as a mechanism for securing recurring financial returns upon which it may depend. However, if additional resources are generated, they will be used in support of specific tasks and projects fully compatible with the CGIAR mission and objectives.
- (iv) The Centers recognize the contributions of farming and indigenous communities to genetic resources conservation and enhancement, that these contributions may have relevance to intellectual property rights and must therefore be appropriately recognized in Centers' management of their intellectual property. The Centers also recognize the expertise of many national and international organizations on equity, gender, conservation and sustainability issues and where appropriate form partnerships with them and others in order to integrate this expertise in research on genetic resources. The CGIAR supports efforts to bring about an equitable balance between intellectual property rights and the protection of traditional knowledge in relation to the use of plant genetic materials, with a view to fostering conservation, sustainable use and benefit-sharing. Furthermore, the Centers will contribute to national and international efforts to convert the recognition of the contribution of indigenous and local communities into tangible measures to develop appropriate policies and procedures for the recognition of farmers' rights.
- (v) In seeking access to genetic resources the Centers will abide by the access regimes established by national governments, either individually or collectively, including any provisions relating to intellectual property.
- (vi) The CGIAR encourages germplasm donors to permit the designation of material in accordance with the 1994 agreements with FAO.

III. Designated Germplasm

- (i) The germplasm designated by the Centers is held in trust for the world community in accordance with the 1994 agreements signed with FAO. Under these agreements, the Centers:
 - a. agree to conserve, maintain, study and distribute this germplasm world-wide for use in agricultural research and development;
 - b. recognize the intergovernmental authority of FAO and its Commission on Genetic Resources for Food and Agriculture in setting policies for the International Network of Ex Situ Collections, of which the designated germplasm is part, and undertakes to consult with FAO and its Commission on proposed policy changes related to the conservation of, or accessibility to the designated germplasm;
 - c. agree to hold designated germplasm in trust for the benefit of the international community, in particular developing countries, in accordance with the International Undertaking on Plant Genetic Resources;
 - d. affirm their responsibility for the safe and secure conservation of these genetic materials for present and future generations, including their duplication in at least one other location for safety.
- (ii) Matters concerning the practical implementation of these agreements are addressed in a series of joint statements agreed by FAO and the Centers.
- (iii) The Centers shall adhere to the principle of ready access to designated germplasm in accordance with the 1994 agreements with FAO and relevant joint statements.
- (iv) Designated germplasm will be made available to recipients under terms set forth in a Material Transfer Agreement developed by the Centers in collaboration with FAO. As set forth in the MTA, all recipients shall be required to consent to the following:
 - a. not to assert legal ownership nor to seek intellectual property protection over the designated germplasm or related information; and
 - b. to ensure any transfer of the designated germplasm or related information subject to these conditions.
- (v) In addition (and pending final agreement with FAO), to promote the use of the designated germplasm, MTAs will be employed to maintain the freedom of access to, and use of, the designated germplasm even in the event of intellectual property rights being granted on the products of research involving the germplasm concerned.

IV. Center Research Products

- (i) The CGIAR adheres to the principle of ready availability of breeding material for breeding and research activities.
- (ii) Subject to paragraph 3 below, the CGIAR regards any information, inventions, processes, biological material or other research products funded or developed by the CGIAR or the Centers (research products) as international public goods to be used in furtherance of its mission. Full disclosure of research results and products in the public domain is the preferred strategy for preventing misappropriation by others.
- (iii) Recognizing there may be times when intellectual property protection is a necessary or preferred means to pursue CGIAR and Center objectives, Centers may consider acquiring and managing intellectual property in research products developed or supported by the Center when to do so would:

- a. support public and private partnerships which pursue mission-based research or which develop and apply research results;
 - b. assure ready access by others to research products developed or funded by the Center;
 - c. ensure the Center's ability to pursue its research without undue hindrance;
 - d. facilitate the transfer of technology, research products and other benefits to the resource poor including, where appropriate, through commercialization or utilization of research products; and/or
 - e. facilitate the negotiation and conclusion of agreements for access to proprietary technologies of use to the Center's research and in furtherance of its mission.
- (iv) The Centers shall take every possible measure to facilitate access to research products for the public benefit, in particular in developing countries.
 - (v) Breeding materials will typically be made available to recipients by contract, designed to ensure that future access and use by others is not compromised or restricted.
 - (vi) If a Center's pursuit, exercise and/or management of intellectual property leads it to impose conditions on the supply of research products, this shall be done only when such conditions are in harmony with the CGIAR and Center missions and objectives.
 - (vii) When entering into collaborative partnerships, Centers will seek IP arrangements that promote unrestricted access to research products for CGIAR clients and beneficiaries.
 - (viii) The circumstances in which a Center, collaborators, grantees or recipients may protect by intellectual property the research products or the results of their research or breeding using the research products are specified in Section V: Protection Prerequisites.

Protection Prerequisites

1. Decisions on pursuing protection of Center research products will be taken by the Center on a case-by-case basis at an appropriate stage in the research process, in accordance with these principles and only after a specific judgement that this course of action will support the CGIAR and the Center's missions and objectives.
2. Where plant variety protection is sought on an improved variety, it must be consistent with the provisions of UPOV or any other *sui generis* system that does not preclude others from using, in their breeding programs, either the original material and preferably the new variety, on which protection is sought.
3. With regard to the patenting of cells, organelles, genes, molecular constructs, plants, varieties and traits, Centers shall pay due regard to the nature of the recipient and the product, and the effect that protection would have on access to, distribution and use of the protected product before agreeing to proceed with an application for patent protection or allowing others to do so.
4. With regard to derivatives: In promoting the use of genetic resources, Centers shall be mindful of and give high priority to the importance of retaining freedom of access and use to non-designated germplasm, products of breeding and their components.
5. Agreement granted to recipients to apply for intellectual property protection does not in any way waive the rights of the Center to challenge protection granted, by recourse to administrative and court proceedings.

Licensing

Licensing decisions will be guided by the objective of facilitating access to, or ensuring the delivery of, appropriate existing and future technologies for the public benefit, particularly the resource poor in developing countries. As a licensor, a licensee or a joint developer/financier, the Centers shall retain, transfer, or obtain the right to make the technology available to support this objective. In all licensing decisions, the Centers will follow the principle that technology licensed to or from others, or derived from their research, will be available to the resource poor of the world at no royalty.

VII. Publications (printed and electronic), Databases, Reports, Training Material, Public Awareness, Artwork, Audio-visual material

The CGIAR encourages the wide dissemination of its publications (printed and electronic) including, databases, reports, training and public awareness material, artwork and audio-visual material to the genetic resources community, seeks that such materials be used to the maximum benefit, and will pursue intellectual property arrangements that promote these objectives.

General Procedures

1. These Guiding Principles will be reviewed at regular intervals and revised as need be in the light of international developments. The Center Directors Committee will carry out this revision.
2. The Centers will adopt specific policies for the distribution and use of improved germplasm and biotechnological products following the above Guiding Principles.

Report of the NGO Committee Meeting

Report of the CGIAR-NGOC for the period MTM - ICW2000 (May - October 2000), presented on October 26, 2000 by Ann Waters-Bayer, Committee Chair.

Since MTM2000 the NGOC has been involved primarily in preparing, participating in and following up on various workshops and conferences, including further development of proposals for research and development partnerships between NGOs and other actors; making inputs to concept development about major research topics and contributing to discussions within the CGIAR about structure and governance of the system; starting up a process designed to broaden and strengthen civil society's influence on international agricultural research for development; and publications.

1. Workshops and conferences: preparation, implementation/participation, follow-up

1.1. GFAR follow-up

NGOC members Jean Marc van der Weid and Ann Waters-Bayer collaborated with Susanne Gura of the German NGO Forum for Environment and Development (FUE) in writing an NGO report entitled "For Farmer-led Research for Development: NGOs and Small-Farmer Organizations" in Dresden, May 2000, on the activities leading up to and during the Global Forum on Agricultural Research (GFAR). Three members of the NGOC (Julian Gonsalves, Jean Marc von der Weid and Ann Waters-Bayer) served on the Steering Committee for the NGO workshop in Dresden. The report on that workshop, "Food for All – Farmers First in Research: International Workshop of Non-Government and Small Farmer Organizations on Research for Poverty Alleviation," was published by the FUE in October 2000 and made available at the NGOC booth during ICW2000.

Jean Marc van der Weid continues to serve as NGO representative in the GFAR Steering Committee; the alternate is Christian Castellanet. Also the NGOC Co-Chair Ann Waters-Bayer has commented on drafts of documents from the GFAR Secretariat and the External Review.

Various proposals for innovative partnerships in agricultural research for development (ARD) that had been presented at the GFAR were pursued further. These include:

- Prolinnova: a global program for identifying, documenting and promoting local innovation in agroecology and NRM (proposal being developed by NGOC Co-Chair Ann Waters-Bayer in collaboration with her colleagues at ETC Ecoculture and the Rambouillet Group of NGO and research organization representatives from Europe, Asia, Africa and Latin America)
- InterDev, an interactive database for exchanging information about practice-tested experiences in agroecology and NRM (being developed by NGOC member Christian Castellanet and former NGOC member Didier Pillot at GRET, in collaboration with numerous information-networking organizations in North and South)
- DMC, a multi-stakeholder learning platform on techniques of direct sowing, mulching and cover cropping (being developed by Henri Rouille d'orfeuil in collaboration with NGOC member Jean Marc van der Weid)
- Scaling up successful local initiatives in agroecology and NRM (being developed by Jean Marc van der Weid in collaboration with participants in the scaling-up workshops organized by the NGOC in Washington DC and the Philippines).

Jean Marc van der Weid and Ann Waters-Bayer from the NGOC and Fernando Chaparro and Oliver Oliveros from the GFAR Secretariat prepared a meeting with donors and other interested parties which was held during ICW2000 to discuss these NGO-led proposals. The meeting aroused considerable interest, and contacts with both donors and CG centers interested in collaboration are being followed up by the NGOC, with advice from the GFAR Secretariat.

1.2. African IPM workshop and follow-up

In collaboration with IITA Benin, the African NGOC member Assetou Kanoute organized a workshop on Integrated Pest Management (IPM) in Cotonou, Benin. Thirty-six participants from 14 African countries took part, twenty from local NGOs and sixteen from national African extension and national African and international research institutions with a special interest in the use of IPM in sustainable agricultural development. The workshop focused on the practical aspects of Farmer Field Schools (FFS). The full document is on the Internet, and an IPM website has been opened: <http://www.cgiar/spipm/news/ngokmenu.html>

During the workshop, a plan of action was elaborated. With some financial support from the NGOC and the support of IITA Benin, the following activities in this plan have been implemented:

- Training of trainers in organic agriculture

At Affrorest Eco-Laboratory in Harare, Zimbabwe, eight local NGO representatives were trained in small-scale organic agriculture, with the objectives:

- to increase the knowledge of local NGOs about FFS for IPM
- to teach the participants how to identify, manage and conserve natural enemies of pests

- to train the participants how to produce an organic crop certified at international level. Some follow-up contacts were made to assist the participants in passing on their knowledge by training farmers.

- Strengthening partnerships between international Center, national extension service, national NGO, and farmers
 - the case of Benin “Botanical pesticides in peri-urban gardening: an initiative to reduce synthetic pesticide abuse and effects”
 - IITA-PEDUNE, CARDER, OBEPAB (an NGO that promotes organic agriculture in Benin) and farmers’ groups collaborated in experiments comparing two bio-pesticides (leaves of neem and papaya) with a chemical pesticide Decis. These were carried out in a market-gardening area of Cotonou, the capital of Benin in West Africa.
 - The goal of this activity was to strengthen the research partnership between research institutes and other stakeholders (extension, NGO and farmers).

The objectives of this activity were:

- to increase farmers’ awareness about possible misuse of chemical pesticides and the effects on human health and environment
- to train farmers in identifying insect pests and natural enemies, their relative numbers and their interactions to test the use of the leaves of neem and papaya as pest-control alternatives in cabbage and cucumber production
- to experience and assess an approach of joint experimentation by stakeholders in agricultural research.

In order to reach the goal, the roles and responsibilities of each partner were specified from the start:

- researchers from IITA wrote the protocol for the study, the NGO and CARDER provided the technical and organizational support
- the farmers carried out the experiment in their plots
- monitoring and evaluation of the results were to be done jointly.

Twenty-five farmers were trained to identify pests and their natural enemies and were made aware of the advantages and disadvantages of chemical pesticides in agriculture. They were shown how to prepare the two biopesticide solutions. Four groups of 15 farmers each were involved in the experiment with the biopesticides.

Results and impact. Decis killed 80 percent of the pests and 100 percent of the natural predators, whereas neem and papaya killed 72 percent and 62 percent of the pests and 33 percent and 40 percent of the predators, respectively. The farmers concluded that the biopesticides were preferable because they were less harmful to the environment and less expensive than Decis, and because the vegetables grown with the biopesticides could be sold more quickly, urban demand for chemical-free vegetables being quite high. They found that pounding the leaves to prepare the two biopesticides was labor-intensive, and were interested in appropriate technology to ease this work. Some farmers involved in these experiments now use two of the biopesticides in additional garden beds, and neighboring farmers have started to use neem and papaya leaves to control pests in their vegetables crops.

1.3. Follow-up to workshop to strengthen R&D partnership in Mali

A national consultation on partnership between international agricultural research centers (ICRISAT and ICRAF Mali), national research institutions, universities, seventeen local NGOs, three international NGOs and the representatives of the commission of users had been held in 1997 in Bamako, Mali. At that time, the principles and modalities of partnership were discussed and proposals made for

strengthening a formal partnership. These included setting up a network. With seed funds from the NGOC, a workshop on the proposals was held 4-6 January 2000 and reported on at MTM 2000. A steering committee and coordination unit were set up with the financial support of IITA Mali. Some of the planned activities have commenced, such as identifying farmers' needs through various local NGOs; informing NGOs where to obtain good seeds for the farmers they work with, and disseminating information through rural radio about the availability of some new technologies. Improved varieties of rice from WARDA were provided to seven NGOs in the network for multiplication in collaboration with farmers. Training in rice production and conservation will be held in December 2000, and NGOs and farmers will be visiting a rice experimentation site at Sikasso in southern Mali.

1.4. Advancing PTD

Work has commenced on a study-cum-workshop designed to mobilize and bring together recent experiences in Participatory Technology Development (PTD) by farmers and other stakeholders in agricultural research, with a view to strengthening local capacities to experiment and innovate. Particular attention is being paid to modifications to "classical" PTD (e.g. using farmer innovation as an entry point or organizing innovation-oriented Farmer Field Schools) and to experiences in scaling-up – integrating the PTD approach in large research, extension and training institutions. The study is being conducted by the International Institute for Rural Reconstruction (IIRR) in the Philippines, ETC Ecoculture in the Netherlands and CIIFAD at Cornell University in the USA. It is meant to deepen the analysis of scaling up successful local initiatives in agroecology and NRM, pursued already during the NGOC-supported workshops on scaling up in October 1999 and May 2000, but with a focus on innovative research partnerships. NGOC members Julian Gonsalves and Ann Waters-Bayer were involved in developing the concept for this study-cum-workshop, which is being coordinated by an IIRR team including Julian Gonsalves. It can be seen as an activity that would fit under the umbrella of the global program ProInnova. Rockefeller Foundation, the Netherlands Government, MISEREOR (Germany) and the NGOC are providing financial support.

1.5. CGIAR Workshop on Integrated Natural Resource Management

NGOC members contributed two papers to the workshop on INRM research in the CGIAR, held 21-25 August 2000 in Penang, Malaysia:

- Miguel Altieri and Jean Marc van der Weid: Prospects of Agroecologically Based Natural Resource Management for Low-income Farmers in the 21st Century
- Christian Castellonet, Jean Marc van der Weid and Ann Waters-Bayer: New international partnerships for agroecological natural resource management in the 21st century.

Unfortunately, no-one from the NGOC was in the position to attend the workshop.

1.6. Electronic workshop and Sonning meeting on CGIAR structure and governance

The NGOC, during its meeting in May 2000 and during subsequent electronic communication, compiled a contribution about CGIAR structure and governance, which was submitted by co-chairs Miguel Altieri and Ann Waters-Bayer to the electronic conference on the topic in August 2000. As individuals from the NGO sector, they also made further contributions to the electronic discussion. Ann Waters-Bayer participated in the synthesis process, including the Sonning workshop "CGIAR Vision and Strategy: Governance, Organization and Structure" held in Sonning, UK, October 4-7, 2000.

1.7. Frontier Science, Global Public Goods and the CGIAR: An Issues Seminar

Ann Waters-Bayer presented a paper titled “Civil Society Perspectives on Agricultural Research as a Global Public Good” at the CGIAR seminar held on the first day of ICW2000.

1.8. Scaling up agroecology through the market

A proposal had been prepared by NGOC member Juan Sanchez for a workshop based on Latin American experiences in using the opportunities of organic and alternative markets to promote technological innovation and management skills of smallholder farmers. This would entail an electronic conference based on case studies from Brazil, Colombia, Chile, Mexico, Nicaragua and Peru, followed by an international face-to-face workshop co-sponsored by the NGOC.

2. Strengthening civil society's influence on international ARD

Peter Rosset, NGOC member and Co-Director of the NGO Food First (Institute for Food and Development Policy) received a grant from Ford Foundation to support civil-society input into the CGIAR system via the NGOC. He has planned the grant activities together with Miguel Altieri, outgoing Chair of the NGOC, who will coordinate the activities funded by Ford Foundation via Food First as an NGOC resource person. Studies are being commissioned, and an electronic conference on enhancing civil-society input into international agricultural research is being prepared for January 2001, to be followed by a strategy workshop in May 2001.

3. Publications

Going to Scale: Can We Bring More Benefits to More People More Quickly? This report, compiled by IIRR under the coordination of NGOC member Julian Gonsalves, brings the combined output of two NGOC-sponsored international workshops on scaling up: “Scaling-up Successful Sustainable Agriculture and Natural Resource Management Initiatives to Benefit Poor Farmers” held in Washington DC, October 22-23, 1999; and a second one held at IIRR in the Philippines, April 10-14 2000. The first concentrated on:

1. factors and principles attributable for the success of local Sustainable Agriculture (SA) initiatives
2. ways of extrapolating from these principles to scale up such initiatives
3. factors that impede the scaling up of SA initiatives and interventions needed to overcome these limitations
4. methodological issues involved in the scaling-up process.

The second workshop examined various case studies of scaling up (some in fields other than SA and NRM), in order to derive lessons from practice. The report synthesizes the major insights gained during these two workshops. Arrangements have been made with the Center for Research and Information on Low-External-Input and Sustainable Agriculture (ILEIA) in the Netherlands to bring out a special issue of the newsletter LNSA on the specific cases of scaling up. This issue will appear in 2001.

Grassroots Innovation. Examples of promoting local innovation—i.e. the approach to be scaled up through the Prolinnova Global Programme—were published in a special issue (vol. 16, No. 2, July 2000) of LNSA. Ann Waters-Bayer was invited by ILEIA to co-edit this issue. It includes an article on Prolinnova, which attracted response from numerous government and non-government organizations working in agricultural research and development.

“Socio-economic methods in grassland and animal production research”. Ann Waters-Bayer co-authored a chapter on socio-economic and participatory research methods, including Participatory Technology Development (PTD), in the book co-edited by Len ‘t Mannetje and Dick Jones on *Methods of Grass and Animal Production Research* published by CABI in the UK.

Policy lobbying publications. NGOC member Peter Rosset wrote various communications on genetically modified organisms (GMOs), agroecology, small-scale farming and the history of the Green Revolution, all in the context of development, including those found here:

[http://www.twinside.org.sg/title/focus 18.htm](http://www.twinside.org.sg/title/focus%2018.htm)
<http://www.foodfirst.org/media/opens/2000/5-pesticides.html>
<http://www.foodfirst.org/media/interviews/2000/mm8-00.htm>
<http://www.foodfirst.org/media/news/2000/biotechndebate.html>

4. Communication and linkages

Regional GFAR representatives. The NGOC informed the GFAR Secretariat and the NGOs who participated in the “Food for All” workshop in Dresden that five representatives of NGOs had been nominated for each of the regions at the end of the GFAR2000 in Dresden. These representatives should facilitate communication with NGOs in their home regions, encouraging their participation in the GFAR fora. NGO representatives who attended the “Food for All” workshop and the GFAR 2000 were informed about the electronic discussion on the structure and governance of the CGIAR, but NGO participation in that discussion has been minimal. The NGOC will make more efforts to encourage NGOs to take the opportunity offered by electronic communication to participate in these international dialogues.

Webpage, email and brochure. NGOC members Juan Sanchez (CIED) and Christian Castellanet (GRET) redesigned and updated the NGOC website, which was formerly hosted by the University of California at Berkeley. The new website is presently in a draft form, while the new URL will be announced in November and linked with the EGFAR and CGIAR websites. The webmaster is CIED Peru. An email address for the NGOC (NGOC@cgiar.org) has been set up to improve communication with and within the NGOC. An NGOC brochure has been designed, based on the website information, and will be printed shortly.

Linkages. With the assistance of Sarwat Hussain of the CGIAR Secretariat, initial contacts were made with the NGO and Civil Society Unit of the World Bank. Also during ICW2000, the NGOC strengthened its contacts with civil society (including small-farmer organizations) involved in policy lobbying in order to capitalize more fully on our complementarities and to prepare for discussions on agricultural research leading up to and during Rio +10. In order to gain support for continued or even increased public funding on agricultural research for development, the CGIAR will need strong support from civil society organizations that are convinced of the sincerity of the CGIAR in seeking to generate international public goods to alleviate poverty.

5. Changes in NGOC membership

One member from Africa (Assetou Kanoute) and one member from Asia (Julian Gonsalves) will complete their terms this year. However, close interaction with them will be maintained, at least by email, as they continue to contribute to strengthening the participation of NGOs in their regions in consultative processes on international agricultural research. Two new members from Africa have been appointed: Ms. Monika Kaporiri from Uganda and Mr. Mutizwa Mukute from Zimbabwe. Both attended ICW2000 as guests and will officially become NGOC members as of 1 January 2001. Anthony Quezon from the Philippines will be proposed to the CGIAR Secretariat as the Asian candidate to replace Julian Gonsalves. Thus, in 2001, the NGOC will have the following composition: 2 members from Asia, 2 from Africa, 2 from Latin America, 2 from Europe and 1 from North America. Of the total of 9 members, 2 are women. In selecting candidates, a balance is sought in terms of geographical area, type of NGO (e.g. field-research

based versus policy- lobbying organization) and gender. Preference is given to women if the candidates are equally qualified according to the following criteria:

- member of the NGO community
- wide network with other NGOs and preferably also small-farmer organizations in the region
- experience related to agricultural research at field and/or policy level
- familiarity with public research and extension systems and issues
- good working knowledge of English.

The procedure for identifying new members in the future will involve a wide call for candidates via electronic means.

6. Emphases in NGOC activities in the coming year

The NGOC has decided to focus its activities in the coming year on raising the awareness of local NGOs and small-farmers organizations (SFOs) in Africa, Asia and Latin America about both the CGIAR and the GFAR and about possibilities of forming linkages with them. This is meant to contribute to strengthening the role of NGOs and SFOs in setting regional research agendas and in influencing agricultural research at the international level. Information exchange and consultation processes, including regional workshops for NGOs—wherever possible, immediately before or after regional meetings held by research networks or fora—will be held in anglophone and francophone Africa, Asia and Latin America.

The NGOC will seek ways in which members of civil society organizations (NGOs and SFOs) who are concerned with agricultural research and development can become more directly involved in advisory groups, evaluation panels and decision-making bodies of the CGIAR and the centers. In this way, civil society will be better able to ensure that:

- policy decisions and actions of the CGIAR and Future Harvest Centers are in harmony with their mandate to alleviate poverty and maintain productive use of natural resources;
- smallholder farmers (including pastoralists and fisher-folk) and the local development-support organizations are involved as partners in all relevant stages of research work in ways that strengthen local capacities to adjust to changing conditions.

In interactions with the CGIAR and the Future Harvest Centers, the NGOC will continue to stress the importance of ecologically-oriented, low-external-input, sustainable agriculture and natural resource management as the major research thrust needed to improve the livelihoods of smallholder farmers.

Report of the Thirteenth Meeting of the Private Sector Committee

The 13th meeting of the CGIAR's Private Sector Committee (PSC) was held at the World Bank in Washington on October 21-22, in connection with ICW2000, under the chairmanship of Sam Dryden. Members Claudio Barriga, Badrinarayan Barwale, Robert Horsch and Barry Thomas attended. Wallace Beversdorf, Seizo Sumida and Florence Wambugu could not participate. Sirkka Immonen of TAC Secretariat participated as a resource person for the systemwide review on Plant Breeding Methodologies and served as Secretary. Selçuk Özgediz, CGIAR Secretariat, attended parts of the meeting to brief the members on developments since MTM2000 regarding the future governance and organization of the CGIAR.

The Committee met also with the new CGIAR Chairman, Ian Johnson, and Shawki Barghouti of the World Bank.

Agenda

- 1. Introduction**
- 2. Interaction with the CGIAR Chairman**
- 3. Overview of developments affecting CGIAR's partnerships with Private Sector**
- 4. Future governance and organization of the CGIAR**
- 5. Future role of the PSC**
- 6. Communication outreach to end users**
- 7. Review of Plant Breeding in the CGIAR**
- 8. PSC report to the CGIAR**
- 9. Other business**

1. Introduction

Sam Dryden opened the meeting and welcomed the participants. The minutes of the 12th meeting were adopted without changes. The agenda was adopted.

Selçuk Özgediz gave an overview on developments since MTM2000 on the process of designing a new vision and strategy for the CGIAR and changing its structure and governance. At ICW2000 the group will be expected to decide on some quick wins that could be achieved in the short term and to decide on a "change management team" to carry on the change process. The PSC could give helpful advice, for example, on alternatives for mergers and alliances between Centers, as well as on regional priority setting.

2. Interaction with the CGIAR Chairman

Ian Johnson, the new CGIAR Chairman, joined the PSC meeting for an hour. He stated that the future is posing an enormous challenge for the CGIAR, which would have to come up with a fundamentally different way of doing business. He saw analogies with the corporate world where both consumer and investor power was influencing the way of rethinking business. He reiterated the need for private/public partnerships as a strategic imperative for the benefit of both sectors and the need for the CGIAR to be more business like with clear accountability. He outlined ownership, stewardship and trust as the major elements in the discussion of the CGIAR's future. He specifically mentioned biotechnology as a common issue that both the CGIAR and the private sector must tackle, which requires informing and educating the public, elevating the standards of the debate and strategic thinking on Intellectual Property (IP). He emphasized the importance of intensifying agricultural production to guarantee food security in the future by revisiting the green revolution and/or through biotechnology.

The members of the PSC commented on these themes, and it was generally felt that the South would be the major sufferer if the development and application of biotechnology in agriculture would come to a halt as a consequence of activist pressure and public mistrust in the North. It was also considered important that food security in the long run be seen as a technological challenge and not merely as a question of distribution and political effort. There are reliable published estimates on the need for increases in agricultural production that cannot be reached with the current rate of yield increases. The inter-relatedness of poverty alleviation, food security and income growth was also discussed. Ian Johnson stressed the importance of economic growth for food and energy security, and the targeted actions on small farmers' conditions, nutrition and health. Ian Johnson also brought up the issue of long term sustainability of agricultural production, which he sees primarily as a concern for the global public sector.

There is need for a code of conduct and for public policies to tweak the markets to create the environments for sustainable solutions. In this regard, the dialogue between the public and the private sector must begin and the developing countries must be involved in it.

Sam Dryden brought up other themes, important from the private sector's point of view, such as the concept of global public goods, which is a complex issue and may require rethinking, germplasm improvement in the CGIAR that warrants intense dialogue with the private sector, and the increasing importance of proprietary technologies in any germplasm improvement programs. Does the CGIAR have similar goals with respect to germplasm improvement as does the private sector – such as improvement of quality traits, in addition to yield? Ian Johnson called for a common platform for agricultural development and research for the future.

3. Overview Developments Affecting CGIAR's Partnership with the Private Sector

Shawki Barghouti briefed the members on the World Bank's intention to open a high level policy dialogue on the new agricultural technologies and the Global Development Agenda (GDA), particularly the role of agriculture in poverty alleviation. The World Bank's own funds are relatively limited for agricultural R&D in developing countries, the share of the public sector in the industrial countries is also declining, and the private sector seems to be investing a considerable amount in research. In addition there is a growing trend for private sector involvement in many developing countries. Thus a teaming up is desirable for greater impact. There is also concern among the developing countries, and within the World Bank on their behalf, that they will be left behind in agricultural development. The issues specifically would include a) involving the private sector in the developing country networks, b) linking the private sector commodity research with so called orphan commodity research, c) private sector involvement in securing meaningful use for facilities left from World Bank-funded projects, and d) IP and information sharing. This meeting is seen as the beginning of a continuing dialogue, which in the future could develop into sub-group discussion on specific country topics.

The PSC considers this dialogue particularly important for discussing the role of the new technologies, also other than biotechnology, as part of the Global Development Agenda. There was some concern over how to translate the broad agreements into tangible topics for co-operation with developing countries, in which the private sector can be engaged. Robert Horsch listed IP and clarity of the process, and infrastructural capacity, e.g. credit, as specific examples of road blocks in private sector-developing country collaboration. Which new mechanisms could there be for making technologies such as genomic information available to the public sector and at the global level? These mechanisms would supplement the current practices of philanthropic gestures. The private sector should look at the broad context for creating new opportunities, while becoming more aware of what its responsibilities are in the long term.

4. Future Governance and Organization of the CGIAR

At MTM2000 the PSC expressed its support of TAC's recommendation for a regional priority setting process to co-ordinate CGIAR planning with other initiatives in a given region, for instance IICA and FONTAGRO activities in Latin America. Regional priority setting and the associated partner consultation would require changes in TAC, which would assume a new regional role. In principle PSC agrees with a model in which the overall research agenda would be determined on the basis of regional planning and donor support. Such general research agenda would also facilitate discussion about sharing of technologies. The question remains, whether donor behavior can be changed, and whether the Centers agree to such an evolution. With respect to governance, the PSC supports moving towards reduced bureaucracy. The PSC recommends funding research programs that go beyond individual Center budgets, and that consultants be used to bring a detached perspective to the restructuring needs of the CGIAR Centers. The goal should be to come up with the best structures and operational mechanisms for reaching the ultimate goal, which is serving the poor.

5. Future Role of the PSC

The members discussed alternative ways to provide advice to the CGIAR and to contribute to its operations. The current mechanism, that of a committee with regular meetings and participation in additional events as required, was considered appropriate during the PSC's first several years. These interactions were particularly helpful in drawing attention to important areas such as IP and biotechnology. Depending on the outcome of the process of restructuring and regionalized priority setting, ad hoc participation of the private sector in consultations and co-operation at the regional level could be fruitful. The private sector would like to be involved, preferably in germplasm improvement, which is just a part of the CGIAR research agenda.

6. Communication Outreach to End Users

The PSC discussed the importance of reaching the public to educate it on the importance of germplasm improvement and the opportunities in the broad range of new technologies for increasing agricultural production. In its last meeting it had agreed to get in contact with the FIS/ASSINSEL and the Global Crop Protection Federation. The issue of reaching the public also needs to be raised in policy dialogue with the World Bank/CG as this is a good opportunity for private/public collaboration with importance to both. The concrete actions are, however, postponed until a decision is reached on the new structure of the CGIAR. There is need to identify and approach the various groups of people that make choices on the markets and that need information. Now that the biotechnology debate has alerted the public to issues of food and its origin, it is prime time to educate people on the broad topic of agriculture and its global relevance.

7. Review of Plant Breeding in the CGIAR

Three members of the Science Partnership Committee (SPC), Sudha Nair, Satohiko Sasaki and Mouin Hamzé, together with Manuel Lantin, CGIAR Secretariat, joined the PSC meeting to discuss the Systemwide Review on Plant Breeding Methodologies in the CGIAR.

Sirkka Immonen introduced the review and its major findings. The report noted that plant breeding in the CGIAR has been successful and has had considerable impact as shown in recent studies. The methodologies used are optimal in general, considering the diverse crops and beneficiaries. The review panel considered adequate funding of traditional plant breeding to be a prerequisite for guaranteeing further success, and for maximizing benefits from biotechnological advancements. The panel saw no immediate opportunities for cost savings through substituting current technologies, but did find that effective incorporation of biotechnological tools requires further investments in research, bioinformatics, implementation of MAS and capacity building. The panel identified several areas for inter-Center synergies and recommended greater co-operation between Centers and even consolidation of certain activities related to biotechnology. It recommended that Participatory Plant Breeding (PPB) should be evaluated as an organic part of the crop breeding programs and an appropriate form of it incorporated when considered effective. The Panel highlighted the issue of IP as something all Centers need to address. Co-operation with advanced institutions, including the private sector was recommended, providing that there is clear communication of the nature and conditions to the stakeholders.

The PSC and SPC members commented on several issues including the need for biotechnology research in the CGIAR, dissemination of transgenic crops, PPB and IP. The PSC is interested in knowing the justification for increasing resource allocation to biotechnology research in the CGIAR, particularly in areas where there may be disadvantageous duplication of efforts with the private sector. With respect to transgenics, the members were interested in the types of traits that the Centers are working with. To overcome the obstacles of public perception on the technology and on the associated IP concerns, it was recommended that the CG come up with prototype cases, in which science and IP matters could be

handled successfully. With respect to partnerships, the PSC considers it rational to design agreements with the CG on a case by case basis. Confidentiality between partners should be accepted, at least initially, after which the partnership can be expanded to include more Centers/CG research groups. However, there would be greater clarity and IP could be easier dealt with, if the private sector could collaborate with germplasm improvement programs rather than with individual Centers, particularly as several Centers currently deal with the same species.

The PSC favors central coordination of and accountability for germplasm improvement activities and management of germplasm improvement budgets in the CGIAR. This would facilitate priority setting and decision making on the research agenda, bring benefits from genomic synteny and broad knowledge across the germplasm improvement programs and enhance partnerships with the private sector.

In conclusion, the PSC found the Plant Breeding Methodologies (PBM) report a thorough one and logical in the way it arrived at its recommendations. The question that follows, is how the System can benefit from this review and how these recommendations can be enforced and implemented.

8. PSC Report to the CGIAR

The PSC will provide a written report to the CGIAR.

9. Other Business

The PSC decided not to set a date or venue for its next meeting, but it tentatively decided to meet between now and MTM2001 in Durban to discuss further developments on the future governance and organization of the CGIAR.

Report of the Science Partnership Committee

The Science Partnership Committee (SPC) met on October 21, 2000, in Washington DC in conjunction with the International Centers Week. This was only the second meeting of this new committee, which held its inaugural meeting as part of MTM 2000 in Dresden, Germany. Participants in this second meeting were R. James Cook, Mouin Hamze, Sudha Nair, and Satohiko Sasaki. Werner Arber (Chair), Lydia Makhubu, and Jose Israel Vargas were not able to participate in the meeting because of previous commitments. R. James Cook served as Chair for the meeting and also represented the Committee at the meeting of the Consultative Council on October 21, 2000. CGIAR Chairman Ian Johnson and Center Director Committee Chair Per Pinstrup-Andersen joined the SPC meeting during the morning. Manuel Lantin of the CGIAR Secretariat served as resource person and provided information on developments in the CGIAR since MTM 2000 and matters arising from the Committee's report at MTM 2000.

The Committee reviewed the SPC terms of reference, which are: To strengthen communication and collaboration between the CGIAR system and the broader international science community; and to help provide the CGIAR with advice and guidance on major scientific issues in environmentally, socially and economically sustainable agricultural development.

Interaction with the CGIAR Chairman and the CDC Chair

Mr. Johnson stated as part of his discussion with the SPC that quality, relevant science is the only real pillar to survival and growth of the CGIAR system. This means that science at the Centers must be the best science based on objective and independent merit-review by peers. The Chairman suggested that

members of the SPC could serve as “science ambassadors” for the system. They could think strategically about science, especially about the quality of science within the CGIAR system. He asked that the SPC consider its role to help place the CGIAR in touch with the broader international scientific community while also serving as a consultative scientific group.

The CDC Chairman indicated that the Center directors welcome any opportunity to be more in touch with the broader scientific community and explore potentials for research collaboration. He pointed out that the need to generate new and fundamental information (which usually means “upstream” research) and also have impact on international development (which usually means “downstream” research), creates a conflict for the Center programs. Donors may fund programs based on scientific standards set for generating new knowledge and understanding but generally evaluate accomplishments based on impact on international development.

Some of the questions raised in this discussion were: How can the contributions of scientists at the Centers be made known more widely within the broader international scientific community, recognizing that the work of the Centers must also be developmental? How can the importance of science quality be further elevated with the donors? How can the Centers establish connections with reviewers in the academic community who are both impartial yet understand the CGIAR system of international agricultural research and development.

In addition to background information and discussions with the CGIAR Chairman and CDC Chair, the committee made certain assumptions and took note of certain premises as a guide to developing an agenda for its work. These were:

- Access to the benefits of quality science is a fundamental right of the people of all countries;
- Donors will look favorably on and be attracted to research and development programs recognized as both relevant and scientifically “world class” on the basis that such programs will provide added value for their investments;
- The Centers and Center scientists would benefit from validation and wider recognition of their research and development programs by the international scientific community;
- The evaluation process for research and development depends on independent, merit review by peers; and
- The current discussions on organizational structure and governance of the CGIAR system and alternatives proposed for change also provide an opportunity and an institutional environment for change in how the quality of science at the Centers is evaluated.

Further Steps toward Development of an Agenda for the SPC

Working within this framework of assumptions and premises, and taking into account the substance of interactions with the CGIAR, TAC (at Dresden) and CDC Chair, the SPC has identified three topics for further consideration within its terms of reference. These are:

1. As an emerging global issue, consider how the CGIAR through TAC can facilitate a deeper understanding of the public policy debate on the direction of the agricultural sciences and its implications for research and development at the Centers;
2. Consider ways by which review of the merits of Center research and development programs by peers (where merit includes an assessment of both relevance and quality), can be achieved or improved upon;

3. Address the specific issue of balance between core funding and competitive grants in the context of the Centers' need for continuity of programs, increased funding, and greater access to or use of merit review. These three items will make up the work of the SPC for the foreseeable future.

Much of the public policy debate on the direction of agricultural science is currently focused on the application of modern biotechnology to understanding and improving agriculturally important organisms, including plants, micro-organisms, fish, and livestock. The SPC endorses the recommendations presented in the "Systemwide Review of Plant Breeding Methodologies in the CGIAR" regarding the use of the tools of modern biotechnology and the institutional arrangements suggested. The SPC also refers TAC, other CGIAR committees, and the Center Directors to the recent white paper issued by seven academies of science (Brazil, China, India, Mexico, Third World, US, and UK) entitled "Transgenic Plants and World Agriculture" (available at <http://www.nap.edu/catalog/9889.html>). However, the appropriateness of transgenic technologies for food and agriculture is only a current target in a much larger issue regarding the direction of agricultural science that must be addressed.

The SPC recognizes its unique roles and opportunities within the larger CGIAR system. Every effort will be made to complement but not duplicate the work of TAC, CDC, and other partnership committees. The work may take the form of producing a white paper.

The next steps will include discussions and decisions on how to complete this work. The full committee has not been present at either the first or second meetings held in conjunction with the MTM and ICW, respectively, owing to other commitments of some of its members. The committee will ensure that the next opportunity to meet will involve all members. It will also make full use of electronic means of communication for exchanging ideas.

Report of the Center Directors Committee

Future Harvest Center Directors Committee

1. CGIAR Renewal

At MTM00 in Dresden the CDC reported that it was heavily engaged in the participatory effort of the CGIAR to seek change and renewal.

In January 2000 the CDC met in Rome first among themselves, then with TAC on the proposed Vision and Strategy. In March, at TAC78, several Directors General pursued the exchanges with TAC and donor representatives. In April the CDC representatives participated actively in the deliberations of the Consultative Council in Rome.

At MTM00, where the TAC proposed Vision and Strategy was endorsed by the CGIAR, the CBC and CDC met extensively among themselves and with representatives of other constituencies to launch the next phase of the renewal exercise, i.e. governance, structure and organization. The CBC and CDC decided to hold a two day retreat in September to reflect on these issues from their perspective.

In July 2000, the CDC met near London first among themselves, then for a full day with the new CGIAR Chair. The latter led to the launching of periodical, consultative and informative teleconferences.

In early September, the CBC and CDC met jointly for two full days in The Hague to reflect on the alternative structures and organization for the Centers and the CGIAR as a whole. This resulted in a proposal to develop codes of conduct and of practices for inter-center collaboration, and to create a

federation co-owned by the CGIAR members and Centers that would ensure sustained enhancement of the effectiveness and efficiency of collaborative work among Centers. This proposal was aimed as an input into the deliberations of the Synthesis Group initiated by the Oversight Committee, and has since then been shared with the CGIAR as a whole.

In late September, at TAC79, several Directors General exchanged views with TAC and donor representatives on the CBC/CDC's and others' proposals.

In early October CBC and CDC representatives participated actively in the Synthesis Group Meeting in Sonning and contributed to the drafting of the Synthesis Group's report.

The CDC met on October 18-20 in Washington, in part jointly with the CBC. They endorsed wholeheartedly the report of the Synthesis Group, and urged quick action on the proposals made in the report. To that effect they strongly support the establishment of an implementation team with expert support, and stand ready to participate actively in these activities aimed at achieving effective changes in the short and medium term. In parallel, the Centers stand ready to pursue the activities they have undertaken to streamlining their administrations and program activities (particularly through integration of their regional undertakings) to enhance both effectiveness and efficiency of their common operations.

In advance of ICW00, the CDC pursued its exchange of views fruitfully with both the CGIAR and TAC Chairs.

2. PARC

At its meeting the CDC heard a report by Hubert Zandstra, Chair of PARC, on the October 17 meeting of PARC and which dealt mainly with the report of Finance Committee Working Group on Long Term Financing.

The CDC welcomes and supports the positive and constructive report of the Finance Committee Working Group. It considers that the proposed expansion of Future Harvest will provide a strong corporate entity to the CGIAR and is fully compatible with the federation proposal contained in the Synthesis Group report. The CDC feels that the first order of priority of the expanded Future Harvest continues to be to maintain and expand ODA support for the Centers through more effective marketing and communication.

The CDC supports the four main recommendations of the working group,

- build and expand the Future Harvest organization;
- continue the strategic marketing and communications assistance to the Centers;
- explore major fundraising strategies (in the public and private sectors) and their impact on future revenues; and
- develop Future Harvest nodes at the national level.

The CDC urges an increase in the 2001 resources of Future Harvest and decided to sustain support from the Centers at a level of \$490,000. In addition, the Centers will second virtually to Future Harvest up to a total of eight staff-years of their public awareness and resource mobilization staff. The CDC formally requested the Finance Committee to allocate \$500,000 mainly to expand Future Harvest's public awareness outside the US and to acquire fundraising capacity. In addition, it calls on the CGIAR members to provide financial support to Future Harvest to expand its capacity building as recommended by the Finance Committee Working Group

The CDC supports in general the proposed structure of Future Harvest with its board, an executive director and capacities in resource mobilization, marketing and communications, capacity building, services to CGIAR members and to Centers, and support to national hubs

The CDC urges, once again, a more generalized use of the Future Harvest brand name.

3. Future Harvest Global Conservation Trust

Geoffrey Hawtin, chair of the Task Force on the Trust, briefed the CDC on progress made with regard to the establishment of an endowment fund for the maintenance of genebanks.

A study—jointly financed by Future Harvest, the Finance Committee and SGRP—is currently being undertaken by Community Counseling Service (CCS), under the leadership of John Connelly, consultant to the Task Force. The study will assess the feasibility of attracting endowments in the amount of some \$200 million. The study will identify potential sources, how they can be accessed, and how the trust should be marketed. It is expected that, while the study will focus on the genebanks endowment, it will produce a spillover of a more generic nature that will benefit the expanded Future Harvest.

The CDC expressed its full support to this undertaking under the leadership of Geoffrey Hawtin and is looking forward to review and discuss the outcome of the feasibility study at its May 2001 meeting in Durban.

4. Gender and Diversity Program

The CDC heard reports from Meryl Williams, Chair of the Gender and Diversity Program's Steering Committee, and from the CDDC which benefited from a full presentation of recent developments.

The CDC reiterated its support to the program, while asking the Steering Committee to sharpen the focus of the program, particularly on servicing the Centers. It agreed to provide financial support to the program as a manifestation of that support and with the expectation that other donors will act accordingly.

5. Integrated Natural Resource Management

Jeffrey Sayer, Chair of the CDC Task Force on INRM, reported on the very successful meeting conducted in early September at ICLARM's headquarters in Penang. It was attended by NRM staff and 50 participants from 13 Centers, including six Directors General.

A report on the meeting was made available at ICW00 and Jeffrey Sayer made a presentation in plenary on the conclusions of the meeting.

It was agreed that the Task Force would consult electronically and establish plans for follow-up during the coming year. Joachim Voss offered to host a follow-up INRM meeting at CIAT in the second half of 2001.

6. Climate Change

Pedro Sanchez, Chair of the Inter-Center Working Group on Climate Change, reported on the achievements and recommendations of the Working Group. The first phase of the undertaking tackled the effects of the Green Revolution on climate change and concluded that it had delivered significant achievements in carbon sequestration. The second phase deals with adaptation – i.e. the need to develop

germplasm adapted to expected climate changes, and mitigation that calls on active participation of the CGIAR in international conventions. Eleven research projects were elaborated and constitute the Centers' providing the scientific and training backbone to the UNFCCC's efforts to link carbon sequestration with poverty alleviation in the tropics.

The CDC endorsed the recommendations of the Inter-Center Working Group.

7. The FAO International Undertaking on Genetic Resources

Geoffrey Hawtin briefed the CDC on recent developments with the FAO International Undertaking following the Teheran meeting and preceding the November 12-17 meeting in Switzerland. Important issues to be discussed will include the status of the CGIAR in the Undertaking and the scope of multilateral system.

The Center Directors expressed their concern that all key crops of importance to the Centers be included within the scope of the International Undertaking. To that effect a resolution was unanimously accepted by the CDC, urging the negotiators to include all the main crops dealt with by the CGIAR in the Undertaking.

8. Revised Guidelines on IPR

In the framework of the CGIAR renewal it was agreed that the CBC and CDC would update the IPR Guidelines. This was done in late July and went through a process of consultation beyond the Centers. It was pointed out, however, that the proposed new guidelines did not depart from the guidelines in existence since 1996 with respect to the designated germplasm.

However, it was noted that certain misinterpretations of the guidelines were circulating, and that these had the potential to hamper the ongoing renegotiation of the International Undertaking.

Thus, the CDC adopted a resolution (attached) clarifying its position and requesting that the issue be resolved within the appropriate framework of FAO and stating that no new Guidelines would be adopted, pending resolution of the outstanding issues.

9. SWIM

Frank Rijsberman submitted a proposal to the CDC to reorganize SWIM into an inter-center undertaking, with a joint research agenda and joint management, which would focus on a comprehensive assessment of water management for agriculture, credible for all stakeholders including NARS, CGIAR members and the environment community. A first step would consist in holding a "Dialogue on Water for Food and Environmental Security," scheduled to take place in Colombo in December 2000.

The CDC welcomed the proposal and endorsed it.

10. Central Advisory Service

Stein Bie reported on recent developments with CAS. The Steering Committee, which includes three Directors General, had met in The Hague in early September to review CAS' work program.

The CDC took note of the proposed program. It asked Stein Bie to ensure that CAS activities are well focused, particularly on servicing the Centers.

11. Information Communication Technology

Stein Bie reported on recent developments in ICT which included a meeting, held in September in The Hague, of Center staff involved in ICT and knowledge sharing (KS). On behalf of the CD Task Force on ICT, Stein Bie made a number of recommendations striving at streamlining, strengthening and diversifying the Centers' ICT and KS services.

The CDC endorsed the recommendations, provided agreements can be reached with individual Centers on local solutions. The CDC reaffirmed its strong interest for having IVDN-like services. The CDC also requested the ICT Task Force to build up an executive capacity particularly with regard to issues related to KS.

12. AIARC

The association, a vivid example of Centers pooling common services, held its annual membership meeting on October 17. In March 2001, Lukas Brader will step down as Board Chair and Meryl Williams will succeed in the position. The CDC expresses its appreciation to Lukas Brader for having served as Board Chair with great dedication to the Centers.

13. Welcome and Farewells

The CDC hereby formally welcomes Ian Johnson as chair of the CGIAR. As indicated earlier in this report, the CDC has already established an excellent positive working relationship with the Chair, and greatly appreciates his interest in pursuing it.

In July 2000, the CDC welcomed Frank Rijsberman as Director General of IWMI. The CDC wants to reiterate this welcome at the plenary meeting of the CGIAR. The CDC wants also to wish David Seckler well in his retirement and to thank him for his contribution to the CGIAR as Director General of IWMI.

The CDC wishes Alexander von der Osten well in his retirement from the World Bank. The CDC has known Alexander for over 20 years in different capacities at GTZ, ISNAR, the TAC Secretariat and the CGIAR Secretariat. The CDC welcomes Francisco Reifschneider in the position of CGIAR Director and is looking forward to a fruitful collaboration.

The CDC wishes also to express its best wishes to a good friend, Roger Rowe. Roger has been a man of many Centers, and of all seasons as he coped with various types of crises to the resolution of which he was remarkably effective. His dedication to the CGIAR has been unsurpassed and greatly appreciated.

Report of a Meeting of the CGIAR Consultative Council

1. The CGIAR Consultative Council met at the World Bank on Saturday, October 21, 2000 to consider issues connected with organization, governance, structure, and long-term financing. Chairman Ian Johnson presided.

2. The Chairman, welcoming participants, pointed out that since ICW99 considerable thought had gone into the future organization of the CGIAR. The objective of ICW2000 should therefore be to complete the vision and strategy process launched last year, and begin the change process.

3. The Council heard brief reports from TAC Chair Emil Javier on the completion of the Vision and Strategy paper, from FC Chair Iain MacGillivray on a proposed long-term financing strategy, and from OC Chair Andrew Bennett on the process by which the Synthesis Group's proposals were reached.

4. The following main points were made during the ensuing discussion:

Vision and Strategy

- The new vision and strategy require a two-pronged programmatic approach – continuation of the strategy of high pay-off global research that has helped to increase global food supplies, combined with regionally oriented research in the world's poorest regions.
- Regional perspectives are important, and regional research products could help to alleviate poverty, but regional perspectives must be linked to the global public goods approach which is the hallmark of the CGIAR.
- There are several partners who can help facilitate regional priority setting processes, including FAO, UNDP, GFAR and regional and sub-regional forums.
- A differentiation needs to be made between ownership of priority setting processes, for which regional organizations may have a comparative advantage, and technical facilitation and support, in which TAC and the CGIAR centers may have a comparative advantage.

Long-Term Financing Strategy

- There is broad support for a three-tiered, long-term finance strategy based on
 - Stable ODA support,
 - Increased Southern support,
 - Support from non-traditional sources.
- The centers will support Future Harvest activities in 2001 at the same level as in 2000.
- Public awareness and a credible public image are important to the CGIAR, but long-term funding is likely to be strongly influenced by how effectively the CGIAR undertakes change.

Synthesis Group's Report

- The proposed federation has many attractive features, although more details need to be spelled out.
- CGIAR members have many ideas about structure and governance, and these need to be taken fully into account
- With its present structure and approach, the CGIAR runs the risk of becoming marginalized in a rapidly changing world.
- The legal status of a possible federation needs careful study. Institutions can form alliances in many different ways, and not all of them require a formal legal status.
- The functions that need to be carried out structurally should be clearly identified before an organizational form such as a federated structure is considered.
- A federation by and for the centers is a good idea. Getting the centers to work together more closely is desirable. Going beyond that requires careful study.
- A federation could provide a focal point for coordinating system-wide programs.

- ICW2000 needs to reach agreement on the specifics of short and long term change, and to set up a Change Management Team with a mandate to facilitate action.

5. Participants agreed that the future of the Consultative Council should be decided after wider governance issues have been reviewed and resolved; and that the issues could be further discussed by the Change Management Team.

6. In his closing remarks, the Chairman said that he had found the meeting a useful means of drawing out views on major issues. This was more easily done in the intimate setting of a smaller group. The view was expressed that the CGIAR would probably be better off with a strong corporate image and organization. However, decentralization and a strong corporate image do not go together. Questions on “what should be done” need to be separated from “how they should be done.” The former provides macro direction—the role of the CGIAR—while the latter is based on subsidiarity and trust, which is the role of the Centers. Those who deliver should be responsible to those who set the agenda and pay for the research. These relationships could be harmonized in a federal structure. A new age institution is needed, and there is a need to show efficiency gains. The challenge now is to ensure that all the viewpoints coalesce at ICW2000 in a process of strategic engagement, so that the CGIAR can get on with the tasks of change.

CDC Statement on the Guiding Principles on Intellectual Property Rights Relating to Genetic Resources

The Directors General of the Future Harvest Centers, supported by the Consultative Group on International Agricultural Research, in their meeting of 19 October 2000, considered proposed new text for the Guiding Principles on Intellectual Property Relating to Genetic Resources. In doing so they reaffirmed their full commitment to upholding the Agreements signed with FAO in 1994 that recognized the trusteeship status of the Centers with regard to the plant genetic resources collections, and placed the collections within the FAO International Network of Ex Situ Collections.

Furthermore the Center Directors reaffirmed that, in accordance with the Agreements, they:

- 1) will continue to safely conserve, maintain, study and distribute this germplasm world- wide for use in agricultural research and development,
- 2) recognize the intergovernmental authority of FAO and its Commission on Genetic Resources for Food and Agriculture in setting policies for the International Network of Ex Situ Collections, of which the designated germplasm is part,
- 3) confirm that they will not seek legal ownership nor seek intellectual property protection over the designated germplasm or related information and ensure, through the use of material transfer agreements, that any recipient of the material is bound by the same conditions.

The Center Directors recognized, however, that there have been different and conflicting interpretations concerning certain aspects of the Agreements, particularly with respect to intellectual property protection, and that these need to be resolved as soon as possible. The lack of such resolution risks ‘seriously hampering crop improvement work for the benefit of developing countries.

Under the terms of the 1994 Agreements with FAO, it is not within the power or authority of the Centers to set policies unilaterally on matters concerning the designated germplasm. Such resolution is to be provided by FAO and its Commission on Genetic Resources for Food and Agriculture. However, the Center Directors also recognized the difficulties faced by the FAO Commission in attempting to provide such resolution in the short term, especially prior to concluding the renegotiation of the International

Undertaking. They thus call upon FAO, and the international community in general, to use whatever offices are appropriate to bring this issue to an expeditious conclusion.

The Center Directors have decided that, pending resolution of these issues, no new guiding principles on intellectual property relating to plant genetic resources will be adopted.

CDC Statement on the Scope of the Multilateral System, Currently under Consideration in the Re-negotiation of the FAO International Undertaking on Plant Genetic Resources for Food and Agriculture

27 October 2000

The CGIAR's mission is to contribute to food security and poverty eradication in developing countries through research, partnership, capacity building, and policy support. The CGIAR promotes sustainable agricultural development based on the environmentally sound management of natural resources. In our work with PGRFA we offer long-term conservation for germplasm held in trust, and provide over 100,000 samples yearly to researchers and plant breeders around the world. Our mission and our programs, however, go far beyond the scope of the commitments made with FAO in 1994.

CGIAR research programs aim to bring the best of modern science to bear on solving the problems of farmers—particularly resource poor farmers—in developing countries. The Centers have active genetic improvement programs involving more than 20 crops (see Annex I). In addition, the Centers conduct research and provide significant conservation services for a number of other crops, listed in Annex II. The crops we work on provide well over 90 percent of the plant-derived nutrition for the entire world's population, and many are grown and consumed almost exclusively in developing countries. For a number of crops, Future Harvest Centers provide a substantial portion of the total research effort being undertaken in and for developing countries.

Research such as this depends on many factors, not the least of which is a conducive and enabling policy environment. It requires a cooperative, multilateral approach to obtain germplasm, mobilize scientific efforts and partnerships, and secure necessary funding. The creation of a multilateral system with facilitated access and benefit-sharing, encompassing all the crops currently covered by the CGIAR, will help build such an enabling environment. The omission of any crop is likely to produce a serious impediment to its conservation and will undermine and perhaps destroy our ability to support continued research on it for developing countries. In our opinion, this would be a tragedy of benefit to no country or group, especially small farmers who might lose their principal or even sole source of improved plant materials.

The list of crops covered by the CGIAR has evolved over the years in response to demands and needs from developing countries. As such, one may consider the prioritization of these crops by the CGIAR to be an indication of their critical importance to food security. All are characterized by interdependence as well. A strong case could be made for including all under the mandate of a multilateral system.

The Directors General of the International Agricultural Research Centers of the CGIAR therefore urge national delegates to the re-negotiation of the FAO International Undertaking, to consider including within the proposed multilateral system all crops listed in Annex I, and all currently-designated

materials (regardless of crop), as an essential and valuable element in further improvement of these materials, especially for developing countries.

ANNEX 1

Crops undergoing active genetic improvement work by CGIAR Centers

Banana/Plantain	Barley
Beans (Phaseolus)	Cassava
Chickpea	Cowpea
Faba Bean	Forage Crops*
Grass Pea (Lathyrus)	Groundnut
Lentil	Maize
Millet (Finger)	Millet (Pearl)
Pigeon Pea	Potato
Rice	Rye
Sorghum	Soybean
Sweet Potato	Triticale
Wheat	Yam

*The CGIAR works actively on a wide range of forage species, and in addition, provides conservation services for many more.

Annex II.

Crops for which there is significant conservation and active research activity

Agroforestry crops

(*Adansonia*, *Acacia*, *alnus*, *Bactris*, *Calliandra*, *Cajanus*, *Crotalaria*, *Callycophyllum*, *Dacryodes*, *Faidherbia*, *Glyricidia*, *Guazuma*, *Grevillea*, *Inga*, *Irvingia*, *Leucaena*, *Markhamia*, *Melia*, *Moringa*, *Parkia*, *Prosopis*, *Pterocarpus*, *Prunus*, *sesbania*, *Sclerocarya*, *Tamarindus*, *Tithonia*, *Tephrosia*, *Uapaka*, *Vitellaria*, *Ziziphus*)

Andean root and tuber crops

Bambara Groundnut, Coconut, Date Palm, Millets (Minor), Pea (Pisum), Quinoa, Taro

CDC Statement on the Need to Resolve Outstanding Issues Concerning Intellectual Property Protection Relating to Plant Genetic Resources

Rural Advancement Foundation International (RAFI) approached the CGIAR Genetic Resources Policy Committee with concerns about the draft of the revised Guiding Principles on Intellectual Property Relating to Genetic Resources. Based on discussions with RAFI and other NGOs, the following statement has been issued by the Center Directors Committee.

Center Directors wish to draw the attention of ICW2000 to the growing problems they are facing regarding the exchange of plant genetic resources in relation to changing intellectual property and access regimes. In 1994, the Future Harvest Centers responsible for plant germplasm collections signed

agreements with FAO to ensure that the more than half a million accessions of designated germplasm would remain secure in the public domain under the intergovernmental authority of FAO and its Commission on Genetic Resources for Food and Agriculture, the body responsible for setting policies related to this germplasm. Center Directors believe that the agreements have served the best and highest interests of researchers and farmers around the world. However, in a world of changing technologies and intergovernmental arrangements, questions of intent and problems of interpretation inevitably arise. Because of this, the CDC wishes to allay concerns in some instances and to identify genuine problems in others.

The Centers have upheld both the spirit and letter of the agreements with FAO and will continue to do so. These agreements remain a solid and effective basis for ensuring the conservation and utilization of plant genetic resources in today's world.

Nevertheless, the Centers recognize that major changes in the international arena, particularly in matters related to trade and environment, are making the management of the designated germplasm increasingly difficult. The Centers recognize that Governments, in negotiating the revision of the International Undertaking as a legally binding instrument, will resolve many of the key questions involved. In the meantime, the Centers are committed to administering the agreements with the same common and consistent interpretation that they have had since the signing of the agreements six years ago. Centers will not amend or re-interpret any aspect of their agreements without full consultation with, and the agreement of, FAO, as exemplified in the past by the issuance of "Joint Statement(s) of FAO and the CGIAR Centers on the Agreements Placing CGIAR Germplasm Under the Auspices of FAO."

The Centers urge the Governments negotiating in the FAO CGRFA to complete these negotiations in the very near future in order to provide an agreed international framework in which the Centers can play their role. The failure to establish an adequate framework for the complex issues involved could undermine our work on food security.

Other concerns have also arisen as to whether Centers may at some time accept intellectual property restrictions for patents held in one country and apply those restrictions in their work in other countries where the patents do not exist. Centers always have and always will operate in full compliance with relevant intergovernmental agreements and national laws. Intellectual property legislation is nationally determined and is not uniform across all countries. Technologies that are protected in one country may be available without restriction in another. In making available proprietary technologies that are associated with Center research on plant germplasm, the Centers will advise the recipient of such intellectual property protection and that it might not apply in their jurisdiction.

The Centers are concerned that the growing number of intergovernmental agreements in trade, the environment, human rights, and intellectual property may threaten the integrity of international public sector agricultural research and the public goods resulting from that research. There is some concern that even the Right to Food, as defined by various governments, could be compromised by certain interpretations of intellectual property and other agreements. Centers note that the boundaries between various agreements are often unclear. In the delivery of vital international public goods, such inconsistencies risk causing serious damage to the work of the Future Harvest Centers.

We urge all parties to work together to resolve these problems. In particular, we look to the FAO CGRFA for guidance, and expect that a revised IU will provide clarity. It has been suggested by some that the Office of the Human Rights Commissioner or the International Court of Justice might be asked to assist in bringing clarity. While such an initiative is beyond the purview of the Centers, the Center Directors welcome any effort that would help to resolve these issues.

Reports of Working Groups 1-4

Report of Working Group No. 1 Setting the Research Agenda for the CGIAR

Chair: Emmy Simmons
 Discussant: Ian Bevege
 Discussant: Joseph Mukiibi
 Rapporteur: Fernando Chaparro

The working group on meeting the agenda for the CGIAR was asked to address two questions:

- a) Factors that intervene in the determination of the CGIAR global research agenda.
- b) The identification of regional priorities as an input into determining the CGIAR research agenda.

The discussion that took place in the working group was very rich and it is difficult to do justice to the various ideas expressed. This report seeks to highlight the main ideas discussed, organizing them in such a way that can be useful for the decisions the CGIAR has to take. The discussion in the group concentrated more on the analysis of how to approach the issue of regional priorities and of the interaction between the regional priorities and global priorities. In its deliberations the group addressed five questions: (a) principles, (b) actors involved in setting the regional research priorities, (c) recent experiences in regional priority setting, (d) strengths and weaknesses of regional priority setting, (e) proposals for action.

1. Principles and basic questions

Several principles and basic questions were discussed:

- a) The question of what a "research priority" is and what is a region were raised at the beginning of the meeting. "Region" was taken in its geographical sense. In discussing research priorities the distinction was made between "development priorities" and "researchable issues."
- b) The importance of a needs-assessment and of a bottom-up approach was emphasized in several interventions.
- c) A distinction should be made between "*regional priorities*" in general, that have a much wider scope, and "*regional priorities that are relevant for the CGIAR*," given its specific mandate. National (NARS) and regional organizations (regional research centers) have to respond to a much wider range of development needs and priorities than can be expected from the CGIAR. The mandates are different. One of the challenges that this process faces is how to move from the first set of priorities to the second one, without losing participation and ownership by the various stakeholders involved.
- d) Regional research priorities can provide a very important input for determining the CGIAR agenda, but cannot determine it directly. A *global agenda* cannot be determined by a simple addition of *regional agendas*. Once you go to the global level new factors have to be taken into consideration, such as: the need to address global issues or problems of ecosystems that do not appear at the regional level, or whose importance is not apparent at that level; the need to assure economies of

scale, avoid duplication and achieve system efficiency; and the need to develop a coherent global agenda, among others. These additional considerations have to be brought into the picture in developing a global agenda, thus requiring an effort to synthesize and pull together all the regional inputs as well as the additional global considerations, into a coherent global agenda. *Rapporteur's Note:* The working group concentrated in analyzing how to handle the *regional inputs* and the *interaction* between the regional and the global levels. It did not have time to sufficiently discuss the process of putting everything together into a coherent CGIAR agenda at the global level, as required by the global mandate of centers. In this process all partners of the CGIAR have to participate.

- e) The CGIAR system has evolved and improved significantly in the very active interaction IARCs have with the various stakeholders in all regions; some good examples of best practices were discussed.
- f) The group also discussed several important principles that should guide this process:
 - it should follow a participatory approach;
 - it should take as a point of departure what exists, and seek to build upon it;
 - whatever system is put in place, it should be kept as simple and as flexible as possible, avoiding complicated procedures and consultations;
 - the farmer should be placed at the center of all concerns keeping in mind the mandate of the CGIAR;
 - the process will most likely be iterative and gradual, to facilitate the dialogue among the various partners.

2. Actors involved in setting the regional research priorities

As pointed out above, the group's discussion concentrated on how to determine regional research priorities. As pointed out above, a distinction should be made between the regional research priorities that are determined by the stakeholders of agricultural research in each region, and the regional research priorities that are relevant for the CGIAR. The latter can only be a limited proportion of the former, since the mandate of the CGIAR is a specific one. NARS and regional organizations have to address a much broader range of national and regional priorities. This is an important distinction to keep in mind.

In the various interventions six main actors were identified as important actors in the process of determining regional research priorities:

- a) **NARS**, mainly through NARIs, are deeply involved in determining national research priorities. In several cases NARS are engaging in inter-stakeholder discussion of priorities in terms of the process of integrating NARS. In turn, national research priorities are one of the bases for determining regional/sub-regional research priorities.
- b) **Regional/Sub-regional Organizations (RO/SROs)** have been engaged in the process of determining regional priorities in recent years. RO/SROs work very closely with NARS, as well as with CGIAR centers and other stakeholders of agricultural research. It was pointed out that more than one organization may exist in each region, covering different sub-sectors. This varies greatly from region to region.
- c) **The International Centers of the CGIAR** are very important actors, since they have been analyzing regional needs and assessing regional priorities for many years. Some of the main databases on

regional needs and trends are found in these centers. In determining regional priorities IARCs interact with all stakeholders in each region, and some good examples of this interaction were presented in the working group.

- d) **Non-governmental Organizations (NGOs)** are playing an important role in the determination of regional priorities looking at ecosystemic constraints and NRM issues, although their involvement varies from region to region. The NGO participants in the group presented interesting experiences of NGOs that present a different perspective from the one presented by the other previously mentioned actors, being complementary to them. Their effectiveness is quite often limited by problems in their organizational and representational capacity at the regional level.
- e) **The private sector** is playing an increasingly important role, and it should be integrated in this process.
- f) A fifth actor was identified towards the end of the discussion that was given the name of “**Non-traditional actors**”. This refers to actors working in different community-related needs, such as health and other issues that are important in determining regional rural development priorities.

3. Recent experiences

Examples of recent efforts carried out by the above actors in determining regional research priorities were mentioned in various presentations. It was emphasized that whatever system is put in place should take into consideration what we have learned from these recent experiences, and should seek to build upon it.

It was pointed out several times that important differences exist not only in the approach followed by the various stakeholders, but also from one region to another. The scope, coverage, level of disaggregation, and capacity of stakeholders to participate effectively in these exercises varies greatly from region to region. There is no simple model, which can be followed to facilitate the identification of regional inputs into CGIAR priorities.

On the basis of the distinction made in section 1 between the two levels for the analysis of regional priorities, the main challenge is how to pass from “*regional priorities*” in general, that have a much wider scope, to “*regional priorities that are relevant for the CGIAR*,” given its specific mandate. This point was made in two of the interventions. This implies a “dialogue” between these two perspectives. An interesting example of how to approach this challenge was given in the presentation of the pilot project that is being designed for Central America. Here, an attempt is being made to look for the “points of coincidence” between regional needs, that include such criteria as the “competitiveness” of the agricultural production for equitable and sustainable development, and CGIAR priorities, in order to identify regional priorities that can be relevant for the CGIAR from the perspective of its mandate to eradicate poverty. By identifying these “*points of coincidence*,” this approach will try to express regional needs in a way that is relevant to the CGIAR. The methodology that is being developed for this particular case could be of interest to other regions.

4. Strengths and weaknesses of present experiences

Several interventions mentioned the importance of taking into consideration the regional priorities already formulated by the RO/SROs, in those cases where they exist, instead of disregarding them and duplicating the effort. At the same time, it was pointed out that present efforts of determining regional priorities have two weaknesses. The first one is that participation in the process of determining the priorities of RO/SROs has been limited in some cases only to NARIs, with little participation of other stakeholders (NGOs, private sector, donors, etc.) and research providers (universities, state or provincial ROs). A second weakness identified is that regional priorities quite often only refer to agricultural and

animal production, with little or no reference to forestry, fisheries, or resource management. These two weaknesses should thus be taken into consideration in the process of determining regional priorities.

It was pointed out that these two constraints could be coped with by integrating the other stakeholders and research providers in the discussion, in order to assure an inter-stakeholder perspective, and in order to adequately cover the different sub-sectors involved. It is important to do this in collaboration with the regional/sub-regional organizations. In this way we may achieve a second objective, which is that of developing a “learning process” and of strengthening the organizations of the region. This side effect would have a valuable capacity-building impact at both the national level (NARS) and at the regional level (RO/SROs).

5. Proposals for action

Four options were identified as concrete ways of operationalizing the process of addressing the determination of regional priorities, all involving active partnerships with the CGIAR centers in each region:

- a) The first one is to operate through the GFAR/RO/SRO dimension.
- b) The second one is to use TAC/FAO facilitation.
- c) The third one is to use a decentralized approach, basically based on the direct interaction between IARCs and all stakeholders through the networks that all centers have.
- d) The fourth one is to use a competitive grant scheme to allocate financial resources to the best project proposals. This could be done either with no regional priorities, or combining it with regional priorities. That is, combining this option with the other ones above. But in itself, a competitive fund is more an implementation strategy, and not really a priority-setting mechanism.

It was also pointed out that various possible combinations of these four options are possible, seeking to combine the advantages of each. With respect to these four options, some participants expressed concerns with respect to the fourth option, especially if this means disregarding totally the question of regional priorities. One may run the risk of not necessarily responding to the needs of the resource-poor farmer. It also tends to marginalize the weaker NARS/NARIs who are the very ones needing capacity building. But it is also possible to combine regional and global priorities with a competitive grants scheme, for implementation purposes.

No specific opinion was expressed with respect to the third option. But in various interventions it was pointed out that it was important to take into consideration the regional priorities formulated by the RO/SROs, which points mainly to the first option. Following the observation initially made of looking for synergies by combining some of the options, the combination of the first two options could seek to integrate the best elements of both, by bringing together CGIAR centers, GFAR/RO/SROs and TAC/FAO. This approach will, on the one hand, involve the stakeholders of ARD and their priority-setting endeavors. Secondly, it also involves the CG centers active in each region, in order to convert “regional priorities” into “regional priorities relevant for the CGIAR,” as previously pointed out.

This combination of the first two options also coincides with a similar recommendation that was discussed in the NARS-SC meeting that took place on Sunday, October 22, which suggests a joint effort by the GFAR secretariat, the TAC secretariat, the RO/SROs and the respective CGIAR centers active in each region, in the determination of regional research priorities.

Finally it was pointed out that some time horizon and a possible timetable is necessary, in order to know how much time is available and what has to be prepared for next MTM.

Report of Working Group No. 2

Role, Responsibility, and Accountability of a Possible CGIAR

Chair: Roberto Lenton
 Discussant: Meryl Williams
 Discussant: Raj Paroda
 Rapporteur: Jochen de Haas

3 Groups:

- 1) Enthusiasm
- 2) Fears
- 3) Undecided

Fears

- Relationship: Investors and Centers
- Problems to be solved unclear
- The terminology "Federation"
- Extra Layer
- Additional Costs

Options Presented

- ⇒ Do nothing, but strengthening existing bodies
- ⇒ Strengthen the existing secretariat
- ⇒ Federation – centers only
- ⇒ Federation – centers plus depending on federations

Conclusions

- I. Federation – not fully to be endorsed, as defined by Synthesis Report.
- II. Federation Concept and other options require further studying and exploration.
- III. Encourage the Centers to go ahead in non-controversial areas.

Report of the Working Group No. 3

Streamlining the CGIAR's Governance

Chair: Gilles Saint Martin
 Discussant: Emil Javier
 Discussant: Juan Lucas Restropo
 Rapporteur: Christine Grieder

Decision Making

- Clearer Process
- Representative and Transparent
- Code of Conduct for Centers and Members
- One Meeting
- Interim Mechanism (electronic Consultation and Consultative Body)

TAC

- High Level Advisory Body
- Draw on outside expertise
- Consolidate Regional and Global Agenda

Dialogue with Partners

- Reduce number of committees reporting to Plenary (report to TAC instead)
- Reaffirm FC, OC, and TAC, and cosponsors
- Secretariat role should be linked to Federation discussion and interim mechanism on decision making.

Report of the Working Group No. 4 **Money Matters – Building Stable Future Finance**

Chair: Robert Thompson
 Discussant: Francisco Reifschneider
 Discussant: Carl-Gustaf Thornström
 Rapporteur: Iain MacGillivray

Discussion Items:

- Need for CGIAR to look at the Big Program/Big Issue Items (i.e. climate change, biodiversity loss, health, etc.). – They are relevant to the system and provide opportunities (for research work and institutional strategic alliance).
- In discussing money matters – There is a need to "think outside the box."
- CG System must remain flexible to various funding sources (e.g. remain relevant to a different mix of donors).
- Need for the "core" fabric of the CGIAR to hang together – any new delivery mechanism opportunities (i.e. cofinancing, competitive grant mechanism, etc.) will require a competent central core (i.e. centers, programs and scientists)
- A need to raise the level of discussions with governments (regarding current and future funding opportunities).

Areas of Agreement/Consensus:

- Endorsement of sustained ODA support to the CGIAR as its primary source of funding – this identifies strongly with the long-term funding strategy of the Finance Committee Working Group, which requires continued nurturing and attention by the CGIAR system.
- Need to diversify funding to the CGIAR—these efforts to be complementary to ODA support (efforts should not compete with or seek to replace ODA).
- A program-based financing "model," (not necessarily the GEF model) must be examined and explored.
- Urgent need to implement a coordinated effort in public awareness and resource mobilization, through execution of long-term financing strategy as proposed by the Finance Committee Working Group.