



INTERNATIONAL CENTERS WEEK

1991

Summary of Proceedings and Decisions



Consultative Group on International Agricultural Research

The Consultative Group on International Agricultural Research (CGIAR) held its annual meeting, International Centers Week, from Monday, October 28 to Friday, November 1, 1991 at the IMF auditorium in Washington, D C Mr Wilfried P Thalwitz, Chairman, presided A summary of proceedings and decisions reached appears on the pages that follow Verbatim transcripts of proceedings may be consulted at the CGIAR Secretariat

Issued by the CGIAR Secretariat
The World Bank
1818 H Street, N W
Washington DC, 20433
Phone (1-202) 473-8951
Fax (1-202) 334-8750

December 1991

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Summary of Proceedings and Decisions

CGIAR Chairman Wilfried P. Thalwitz inaugurated International Centers Week 1991 (ICW91) at 8:30 a.m. on Monday, October 28 in the auditorium of the International Monetary Fund, Washington, D.C.

CHAIRMANSHIP OF THE CGIAR

The Group endorsed by acclamation the nomination of Mr. Visvanathan Rajagopalan, the World Bank's Vice President for Sector Operations and Policy, as the sixth Chairman of the CGIAR.

Mr. Thalwitz said at the commencement of ICW91 that his new responsibilities as the Bank's Vice President for Europe and the Soviet Union required him to give up the CGIAR chairmanship.

The established CGIAR tradition whenever the chairmanship falls vacant is for the President of the World Bank to nominate a candidate. In keeping with that tradition, Mr. Thalwitz said, Bank President Lewis T. Preston had nominated Mr. Rajagopalan, a senior Bank official, but endorsement of the nomination was a matter for the Group to decide.

Mr. Preston had asked him to convey to the Group the Bank's continuing support of the CGIAR, in terms of personnel and managerial underpinning of the CGIAR and of financial support.

Mr. Thalwitz said that Mr. Rajagopalan was a colleague and friend; a man of total integrity, technical and sectoral understanding. He fully satisfied the criteria that had been set up for the selection of a chairman.

Several opportunities were provided during ICW91 for the Group to review the nomination, both formally and informally. Response to the nomination was uniformly positive. Taking note of the short duration of Mr. Thalwitz's chairmanship, members of the Group expressed the hope that greater continuity would be possible in the future. Mr. Thalwitz announced the results of these consultations in open session where the appointment of Mr. Rajagopalan was unanimously endorsed.

At the final session of ICW91, Mr. Andrew J. Bennett, head of the UK delegation, presented Mr. Thalwitz with a scroll, on which the statement that appears below was inscribed.

The following resolution was unanimously adopted by the CGIAR on November 1, 1991 during its annual meeting, International Centers Week:

Members of the CGIAR extend their felicitations to the Group's fifth Chairman.

Wilfried P. Thalwitz

as he prepares to assume challenging new responsibilities at the World Bank; and place on record their gratitude for the dedicated, skillful and inspiring leadership he provided them as they sought to redefine

their priorities and renew their commitment to mobilizing science on behalf of the world's poor and disadvantaged.

Mr. Bennett, on behalf of the Group, thanked Mr. Thalwitz for strong leadership at a difficult time. They respected his intellect, and appreciated his ability to harmonize contending points of view. FAO representative Mr. Philippe J. Mahler, speaking on behalf of cosponsors, drew particular attention to the combination of firmness and accommodation that characterized the outgoing Chairman's leadership. Mr. G. C. Srivastava of India speaking for regional representatives, commended the Chairman for his continuing efforts to infuse the work of the CGIAR with a stronger developing country perspective. Mr. John Walsh, Chairman of the Center Directors Committee, said that he and his colleagues would always value the understanding and support they received from Mr. Thalwitz.

Mr. Thalwitz said he would leave the CGIAR with a heavy heart. He would retain fond memories of the Group whose commitment to a cause and vision were rare. The role of the CGIAR as an instrument through which development could be promoted and poverty alleviated was invaluable. There were many challenges ahead of the Group, and he was confident the CGIAR system could meet those challenges if it remained loyal to its founding principles. This did not mean that the Group should be stuck with the "status quo" but that they should apply the system's established strengths to the changing needs of the time.

He urged the Group to extend to Mr. Rajagopalan the same kind of cooperation and support they had given him.

CHAIRMAN'S OPENING REMARKS

In his formal opening remarks, Mr. Thalwitz reminded the Group that in the face of an international shortage of funds, the CGIAR would have to demonstrate that it continues to be one of the world's most effective users of development finance.

The CGIAR would need to reaffirm its commitment to productivity-related research as a contribution to alleviating global poverty. But taking note of international concerns and the intense competition for development funds, the CGIAR would have to place its emphasis equally on environmental issues. In this connection, he drew attention to the close interaction between environmental and productivity objectives.

Turning to the agenda of ICW91, Mr. Thalwitz said that the central issue for discussion would be the future priorities of

the CGIAR. They would approach this issue on the basis of a draft paper from the Technical Advisory Committee (TAC) setting out a whole range of options. He urged that these should be exhaustively reviewed and cautioned the Group against trying to reach decisions too quickly. Mr. Thalwitz added that he was pleased the centers were looking for ways to associate themselves with the priority-setting process.

As a follow-up to the Paris mid-term meeting (May 1991) the Group would hear a progress report from the Australian Centre for International Agricultural Research (ACIAR) on the steps taken toward establishing a new CGIAR entity for forestry research.

Ten centers would present their plans and priorities, and face questions raised by members of the Group. This was a large number of centers for a single ICW, but that was inevitable, given the expansion of the CGIAR. Sovereign centers pursuing excellence and creating impact are at the heart of the CGIAR system, Mr. Thalwitz pointed out. It was important to hear directly from them about their experiences, programs and plans for interaction with each other.

The meeting would come to some conclusions about the budgetary envelope for 1992, based on pledges to be announced at ICW91. None of them were stargazers, but it would be helpful, he said, if they could all look at funding possibilities further down the road. The system needed such a sense of direction, as it dealt with priorities, strategy and structure.

CHAIRMANSHIP OF TAC

The Group received with acclamation TAC Chairman Alexander McCalla's acceptance of a unanimous invitation to serve for two years beyond the end of his present term on December 31, 1992.

Introducing the subject, Mr. Thalwitz informed the Group that the cosponsors had asked Mr. McCalla whether he would accept an extension if invited to do so. Mr. McCalla had said he would.

Mr. Thalwitz suggested that the Group should discuss this situation as a matter of priority in an attempt to reach a decision by the end of the week. He felt that the system had gained from Mr. McCalla's efforts, and was glad that the TAC Chairman was willing to continue his stewardship. This would ensure continuity at a time of change. For himself, he could not have carried out his chairmanship without Mr. McCalla by his side.

The Group decided without dissent that Mr. McCalla should be invited to accept an extension.

REVIEW OF CGIAR PRIORITIES

Introduction

TAC undertook the responsibility of presenting the Group with options for its short- and longer-term priorities in response to a decision at its 1987 mid-term meeting held at

Montpellier, France that CGIAR priorities and strategies should be reviewed by TAC every five years.

The last comprehensive review was in 1986, making 1991 the next date for revision and review of priorities. TAC's priority-setting process was delayed, however, when the Group entrusted it in 1988 with the task of examining a possible expansion of the system.

Leading the Group into an almost week-long review of proposed CGIAR priorities, Mr. Thalwitz said this discussion was the most important item of business at ICW91. The central issue, he said, was the question of what should be on the agenda of the CGIAR system during the next 10 to 15 years. He stressed the importance of the proposals and the need for the Group to provide TAC with guidance and directions on which its final recommendations would be based.

Synthesis

The Group reached broad agreement on a number of themes that would influence priority setting within the CGIAR over the next five years. The themes included:

- reaffirmation of the role of research,
- agreement that research programs should be concentrated on specific commodities,
- enhanced interest in natural resource management, sustainability and related concerns,
- the need to strengthen CGIAR relationships with national agricultural research systems while taking into account the limitations of the CGIAR in this area, and
- the relationship between priorities and financial resources.

These themes emerged from discussion of two documents prepared by TAC for ICW91. The first paper, **A Review of CGIAR Priorities: Advanced Working Draft**, provided a framework for assigning relative priorities by activities, agroecologies, regions, production sectors and commodities. The second, entitled **A Review of CGIAR Priorities: Essence Paper**, was a summary of the first.

The draft paper outlines five activities and suggests the proportion of CGIAR resources that should be invested in each category by the year 2010: conservation and management of natural resources including germplasm conservation — 20 percent (1989 base, 15 percent); germplasm enhancement and breeding in agriculture, forestry and fisheries — 25 percent (25 percent); development of sustainable production systems for agriculture, forestry and fisheries — 25 percent (35 percent); socioeconomic, public policy and public management research — 10 percent (5 percent); and strengthening national research systems including training, information and institution building — 20 percent (20 percent).

In its analysis of research priorities by agroecology, TAC suggested that the main emphasis in agriculture should be on tropical agroecologies and on the cool subtropics with winter rainfall. For forestry, TAC proposed that relative emphasis should increase for tropical agroecologies in general.

Discussing regional issues, TAC's preliminary finding was that declining productivity combined with rapid population increases made a strong case for sustained priority for Africa. At the same time, a number of factors including a large population and the limited scope for land expansion favored Asia as a priority region. TAC felt therefore that further inquiry was justified on the question of regional balance.

The appropriate balance of CGIAR efforts among agriculture (crops and livestock), forestry and fisheries was reviewed, but further analysis was required because agroforestry/forestry research was only recently added to the CGIAR agenda, and work on fisheries has not yet been fully agreed upon. TAC's analysis suggested, however, that critical research needs in crops and livestock should not be neglected in the effort to build up agroforestry/forestry and fisheries programs.

Within the agriculture sector, TAC presented an examination of 27 commodities (crops and livestock). These included 16 commodities which are already on the CGIAR agenda; and 11 "new" commodities. Further consultation will be undertaken particularly with national systems before a priority portfolio of commodities is finally defined.

Process

Mr. McCalla said that discussion of the draft TAC report presented the Group with opportunities for interaction and input. To facilitate the discussion, he suggested that the Group should concentrate its attention on the highlights of the main working document, the advanced working draft.

He pointed out as well that there were three major differences between the priorities exercise they were reviewing and its predecessors. Previously, TAC had started by looking at global issues and then moved downwards to regional issues. This time, TAC's starting point was agroecologies, regionally defined. A second difference was that in the current exercise TAC had tried to be more analytical than before. The third difference, he said, was that TAC attempted to have a quantitative basis for its recommendations.

Mr. McCalla drew the Group's attention to sections of the TAC paper that outlined issues — such as population growth, urbanization and income growth — that would, to some extent, determine the CGIAR system's choice of priorities.

Each of these would have an impact on the demand for food in the future. For example, population projections for the year 2025 indicate that the number of people in developing countries will double from 3.6 billion in 1985 to some 7

billion. Given the lag times in research, the present was not too early to make a start at establishing priorities for the next 10 or 20 years.

Outlining the analytical process by which TAC proceeded toward its conclusions, Mr. McCalla said that their baseline for agriculture consisted of three dimensions — value of production, number of poor and land in use. TAC then applied a set of modifiers that were concerned, for instance, with equity, self-reliance, soil degradation, deforestation and agroforestry.

TAC also considered the relative need for research in socioeconomics, public policy and public management.

Convergence

The Group commended TAC for the transparency of its approach, and for the comprehensive methodology of analysis employed. Although no final decisions were required because the paper represented only an advanced draft, not a final set of recommendations, the paper was subjected to a rigorous debate.

Discussion centered on the approach chosen, problems identified, the analytical method developed and TAC's preliminary conclusions. Different viewpoints were forcefully expressed, and several delegates welcomed the fact that the CGIAR remained an open forum in which opinion could be freely expressed.

From that exchange of ideas, convergence was established on several issues that are critical to the identity, role and future of the CGIAR.

Research: The Group reaffirmed that the CGIAR is primarily a research-oriented institution, supporting strategic agricultural research on issues of transnational importance.

Many of the delegates were from development assistance agencies and they explored at some length the implications of a divergence between research priorities and development priorities. From that review of issues, there was clear acceptance of the research orientation of the system.

Continuity: The Group acknowledged that as a dynamic organization the CGIAR system should be sensitive to changing needs and trends, but recognized as well that research programs would suffer if they were buffeted by political winds that changed course periodically.

The system had to define a balance between responsiveness to emerging trends while simultaneously protecting the valuable intellectual capital which the CGIAR has invested in the centers. That form of capital was the basis on which centers could adjust to changing trends and demands. In keeping with this assessment, several delegates indicated their desire to make longer-term commitments to the research enterprise, if that was politically possible.

National Systems: Strengthening linkages between international centers and national agricultural research systems was seen as a clear priority. Having said that,

however, there was a perception, too, that strengthening national systems directly was not a primary responsibility for CGIAR centers.

Strong national systems are an essential element of the global research system. International centers must therefore continue to participate in capacity building that strengthens national systems. But delegates felt that the research responsibilities of the centers could suffer, and their resources come under strain, if building up national systems became a major preoccupation for CGIAR centers.

Even if the CGIAR were to reallocate all its resources to strengthening national systems, that would be a fraction of what was required and of activities already undertaken by others.

Several members of the Group argued that what the CGIAR system could contribute most to the strengthening of national programs would come as a result of continued excellence and focus in research at CGIAR centers. This would open the way to more collaboration with national systems and devolution of responsibilities to them wherever feasible over time.

Ecological Issues: Under this broad rubric, strong support was stated for the need to meld an emphasis on natural resource management into the CGIAR research agenda. This did not mean, however, that the emphasis on productivity-oriented commodity research should diminish. Each should be as strong as the other.

Several delegates acknowledged that the ecological approach in national and international circles was part of a discernible political trend. It was half-facetiously said that if the CGIAR changed its name by substituting natural resource management for agriculture, it would immediately have access to more sources of funds than at present.

Responding to "ecological trends" was nevertheless legitimate, delegates pointed out, because productivity-oriented research would be only partially effective if it did not take into account the need to protect the natural resources on which productivity depends.

Commodities: The Group urged that a research focus on food commodities of importance should continue. There are a set of major cereals that are critically important on the global scene and to developing countries. A strong concern was expressed that the CGIAR should be cautious about significantly altering the commitment to those crops until alternate sources of supply were identified and fully understood.

Delegates suggested that the CGIAR system could explore further whether it should maintain a priority for commodities of subsidiary importance, or whether responsibility for research into those commodities should devolve to other research systems.

Regions: The Group recognized that there were research needs of an international character in each of the regions

surveyed by TAC. They could not, however, agree on the relative weightage that should be given to each region. In particular, divergent views were expressed as to whether or not the CGIAR should increase its research efforts in Africa — to the possible detriment of programs in Asia.

Resources: A thread running through the entire discussion was the issue of funds for research, the continuing diminution of Overseas Development Assistance funds and the need to match resource supply with demand.

Next Steps

TAC will revise its draft on the basis of discussions at ICW91, and continuing consultation with other components of the CGIAR system as well as with national programs.

TAC's proposed timing is to place a final set of recommendations before the Group at the next (May 1992) mid-term meeting.

If the Group endorses those recommendations, TAC would then convert priorities into resource allocation targets and start the second round of five-year programs and budgets.

TAC CHAIRMAN'S REPORT

Mr. McCalla reported briefly on some of the main TAC activities that did not appear as separate items on the ICW91 agenda. These included:

- discussions of strategic plans with centers,
- resource allocation,
- center reviews, and
- information management in the CGIAR system.

Mr. McCalla said that TAC had interactions with five centers on strategic plans: CIP, INIBAP, ICRAF, ICLARM and IFPRI. Broadly speaking, he said, TAC's response to the strategic plans brought to its attention by centers was to ask whether each center could undertake all it had listed and, if that seemed doubtful, how it proposed to focus its efforts on what needed doing as a matter of priority and could actually be accomplished.

TAC had continued to examine the appropriate relationship between priority setting and resource allocation. This was done particularly through the Standing Committee on Resource Allocation. In a connected activity, TAC had benefitted from a constructive interaction with the CGIAR Secretariat on capital issues in the CGIAR.

Mr. McCalla reported that 12 reviews of centers were in various stages of process. As always, each review would be placed before the Group for discussion and assessment when completed.

A working paper on information services had been discussed, and TAC would support an initiative by center directors to organize a meeting on common interests as well as problems in this general area.

TAC had engaged in productive discussions with center directors and board chairs on plant genetic resources and on intellectual property rights.

Mr. McCalla referred to past TAC assessments of coconut as a possible subject of CGIAR involvement and said that he welcomed efforts by IBPGR to develop a coconut germplasm network.

He paid tribute to the quality and quantity of the work carried out by members of TAC, the TAC Secretariat and their colleagues in the CGIAR Secretariat. He placed on record his appreciation of the strong working relationship that had developed between TAC and the CGIAR Secretariat. He said that linkages with center directors and board chairs continued to improve to the benefit of the system.

The Group commended Mr. McCalla and his colleagues in TAC, the TAC Secretariat, and the CGIAR Secretariat, for their professionalism, their sense of dedication and for their ability and willingness to carry an ever-increasing workload. They took note of Mr. McCalla's assessment that expansion of the TAC Secretariat had helped them to carry out the tasks assigned to them by the Group.

The FAO cosponsor commended TAC and the TAC Secretariat for the quality and quantity of its work. He pointed out, however, that the attendant rise in costs was an incipient problem for FAO.

REPORT OF THE COMMITTEE OF BOARD CHAIRPERSONS (CBC)

Mr. Fred Hutchinson, Chairman, CBC, reporting on the activities of the committee, recapitulated its main activities and its interaction with directors general as well as with other elements of the CGIAR system. He described the period under review as a good year within the CBC and within the CGIAR system.

In addition to their own meetings in Paris and in Washington, the CBC had held a number of joint meetings or consultations with others within the system, engaging in a constructive exchange of views.

Mr. Hutchinson said that the composition of the CBC was more stable than in the past with only one member due to leave in 1991. The CBC now included three new members from the centers recently admitted into the CGIAR.

A central point of the CBC Chairman's report was a proposal that a new CGIAR strategy should be prepared for review at ICW92. The CBC supported the priorities outlined by TAC but felt that a clear cut strategy for the system was overdue.

They were not seeking a "strategic plan" but a strategy that defines and targets the system's mandate, and provides the means by which the system could be adequately funded to carry out that mandate.

The CBC's view was that such a statement of strategy should be collectively devised within the system. A represen-

tative group should be established with the specific responsibility of undertaking this task. A "steering committee" could be created to guide the process.

Mr. Hutchinson reported that following on earlier discussions by the Group, all center boards had agreed on term limitations for center directors. The accepted policy, with exceptions under unusual circumstances, was that a director general would serve a maximum of two five-year terms with an evaluation before the end of the first term.

The CBC and CDC (consisting of directors general) had agreed to repeat the 1988 comparator-based study of the salaries and benefits of directors general.

The CBC endorsed the continuation of the Candidate Information Service (CIS) at the CGIAR Secretariat as one of the mechanisms that could help boards reach their objective of continuously improving performance. The CIS could be reviewed in two or three years to ensure its long-term effectiveness.

The CBC appreciated the need for a comprehensive review and planning process within the CGIAR system, Mr. Hutchinson said, but shared a strong concern with center directors at the high "opportunity costs" associated with external reviews, strategic plans and mid-term plans. The existing system needed to be modified so as to remove a potentially serious impediment to scientific productivity at the centers.

REPORT OF THE COMMITTEE OF CENTER DIRECTORS (CDC)

Mr. John Walsh, Chairman, CDC, extended special thanks to Mr. Thalwitz for a distinguished though short chairmanship of the CGIAR. Center directors appreciated his wise counsel and clear guidance in a period of some uncertainty.

Center directors working as a group had been active in a number of areas, and some of the results of that activity would come up at ICW91. These included public awareness programs, preparations for UNCED, intellectual property rights (IPR), fund raising and attempts to improve communications between CGIAR centers and donors.

In carrying out these activities, center directors had interacted closely with other components of the CGIAR system, thus contributing to a growing sense of cohesion.

Mr. Walsh reported that TAC had consulted center directors in connection with the priority setting exercise that was the centerpiece of the ICW91 agenda. From the center directors' perspective, the draft priorities paper was an important element in system-wide efforts to redefine CGIAR priorities but it was not all inclusive.

Several additional dimensions needed to be accommodated within the matrix of priorities. These included supply side issues connected with resource allocation, Mr. Walsh said.

Mr. Walsh informed the Group that center directors had endorsed the need for the formulation of a coherent, system-

wide strategy. This would require agreement on the choice of a strategic niche in which the system had a comparative advantage and could function effectively.

Center directors and board chairpersons had established a steering committee on strategy, Mr. Walsh said. Responding to inquiries from the Group, he said that the steering committee was meant to move the strategy-setting process forward, and to work in coordination with others such as TAC and the CG Secretariat that were also active in this area.

Continuing efforts by CGIAR centers to strengthen their relationships with national agricultural research systems (NARS), particularly in Africa, were commended by the Group.

Mr. Walsh said that the trend already established by center directors would be further advanced when center directors and leaders of Sub-Saharan NARS conduct a policy dialogue during the next (June 1992) meeting of the CDC.

Reporting further, Mr. Walsh said that the CDC strongly supported the need for periodic reviews of CGIAR centers but was concerned about the high "opportunity costs" of the present system.

The Group welcomed the formulation of draft principles on IPR and suggested the need for early agreement on this issue.

FORESTRY RESEARCH IN THE CGIAR

The Group approved steps taken so far by ACIAR towards setting up a forestry research entity within the CGIAR.

ACIAR was named as the implementing agency for this decision at the Paris mid-term meeting (May 1991) when the Group decided that agroforestry research should be entrusted to ICRAF, and forestry research to a new entity. Each would be expected to work in close consultation with the other.

At ICW91 the Group discussed a paper submitted by ACIAR outlining the progress that has been made since the mid-term meeting. Highlights of the paper were outlined by Mr. Ian Bevege who led ACIAR's implementation team. He said that while ACIAR was the Group's implementing agency it had not acted alone but had received significant and substantial support from across the CGIAR system. He was particularly appreciative of support from the CGIAR Secretariat.

Mr. Bevege said that establishment of the new entity would be jointly sponsored by a number of governments that are CGIAR members, to guarantee its international character. Progress has been made in preparing a draft constitution, and a search has begun for candidates who could serve on its board of trustees.

Priority areas of research that will be pursued by the forestry entity include:

- Germplasm exploration
- Selection breeding and improvement of tree species

- Improved management of natural forests
- Improved productivity of forest plantations
- Ecosystem dynamics
- Utilization and management options for lesser known forest products
- Policy and marketing research.

Proposals were being developed as well on the forestry entity's likely activities in the area of research information, management and training.

In all preparations for establishing the new entity, special emphasis is being given to developing a mode of operation compatible with the concept of a "Center Without Walls" as suggested at the mid-term meeting. The new center will at least initially rely heavily on contractual and collaborative research arrangements with regional and national research institutions. The broad guideline that about 70 percent of the resources of the center would be spent in supporting regional and relevant research activities will be maintained.

Mr. Bevege sought the Group's guidance on three specific issues: cross-representation on the boards of ICRAF and the new center, its location and its name.

Issues raised by the Group focused primarily on location, the speed with which it would be possible to move ahead with the development of a specific research agenda and the suggested name of the center.

It was agreed by consensus that the location of the center should be in the Asian region. ACIAR has already identified 12 potential host countries and its paper included a set of criteria for making a selection from among them.

Despite the acknowledged desirability of moving rapidly ahead with implementation of research programs (to take into account the Group's wish that the CGIAR should begin to deal with issues of tropical deforestation without further delay) a note of caution was suggested by ACIAR.

It was felt that to proceed too rapidly with implementation of ad hoc research proposals in advance of appointments to the board of trustees and of the director general would be inappropriate. However, it was acknowledged that much could be done to move ahead by planning research programs in specific subject areas so that by the time the board is in place several potential research projects of possible interest to the center would be in a state of advanced preparation. Particular emphasis would be given in this work to building links with existing networks such as the IDRC-financed bamboo/rattan network in Asia

ACIAR's suggestions for cross-representation on the boards of ICRAF and the new centers was that this should be at the chairperson's level. The two directors general could, however, attend board meetings of each other's institutions when the need clearly arose. ACIAR also hoped for nominations from the CGIAR community for positions on the board. This approach was endorsed.

ACIAR's suggested name for the center was "International Forestry Research Institute (IFRI)". After considerable debate about the risks of confusion between IFRI and IFPRI it was decided to canvass the Group on alternative names. About 15 options were received. By consensus the most popular support was for CIFOR, the Center for International Forestry Research.

CENTER PRESENTATIONS

CIMMYT

Introducing the CIMMYT presentation, Board Chair Burton Matthews announced that CIMMYT had introduced a systematic, internally-managed external review process involving teams of internationally recognized agricultural scientists. The third of these reviews was begun last month; this one is examining wheat crop management and physiology research.

He announced, too, that CIMMYT will mark its 25th anniversary with a mini-symposium in Mexico featuring International Agricultural Research: The Next 25 Years.

Director General Don Winkelman focused his presentation on impact and relevance, broader relationships with the NARS, new products and financial circumstances.

In 1990, CIMMYT initiated an extensive survey of national programs in developing countries. According to these data, nearly 1,000 open-pollinated maize varieties and hybrids and over 1,300 wheat varieties, exclusive of varieties in China, were released during the period under review.

Nearly half of all the maize releases are adapted to the lowland tropics and for wheat over 80 percent are spring bread wheats. A rising percentage of all wheat releases are semidwarfs and nearly all semidwarf spring bread wheats have CIMMYT germplasm in their pedigrees. In maize, about half of the varieties and hybrids released by national programs since 1965 contain appreciable amounts of CIMMYT germplasm.

Since the late 1960s, the area in semidwarf wheats has increased steadily at about two million hectares per year; they now cover nearly 50 million hectares and account for some 90 percent of wheat production in developing countries. The most popular variety, Sonalika, released in 1968, is still being grown on more than 6 million hectares in Asia. However, more varieties, each adopted over more limited areas, are beginning to be seen. This is an important and healthy trend because it adds to the genetic diversity represented in farmers' fields.

The impact of CIMMYT's maize research is less far-reaching. However, over 7.5 million hectares are planted with varieties related to CIMMYT germplasm. Materials appropriate for all major environments and disease threats are available.

Yield potential has increased at an average annual rate of 1 percent, even in the face of mutating disease pathogens because of the continued efforts in resistance breeding.

Mr. Winkelman went on to discuss the beneficiaries of this impact. In addition to the farmers, the whole economy benefits as increased productivity in agriculture generates new income streams and consumers enjoy more plentiful supplies of grain at lower prices. And there are significant environmental benefits from the widespread use of modern varieties. Because of yield increases, 47 million hectares of land did not have to be cultivated; much of this land would have been in more fragile areas. The improved disease- and insect-resistance of modern varieties also reduces the need for potentially harmful chemicals.

The cornerstone of CIMMYT's research enterprise is collaboration with national programs. He cited two examples: the work underway on sustaining the productivity of Asia's immense rice-wheat rotation is a collaborative effort with IRRI and four national programs—Bangladesh, India, Nepal and Pakistan; and the new thrust in training at the entry-level for crop management.

The first six-month training course on maize crop management was conducted in Kenya with instructors from Edgerton University, the Kenya Agricultural Research Institute (KARI) and CIMMYT. Training emphasized on-farm work and sensitivity to the environment and participants were exposed to all facets of on-station and on-farm crop management research.

CIMMYT believes that this decentralized training is an effective option for satisfying the need for qualified agronomists in national programs. A similar course for wheat crop management was initiated with the Argentine national program in July of this year and other negotiations are underway.

What about the future? Impact in the '90s will result mainly from work initiated in the '80s which is now coming to fruition. New products include wheat germplasm with durable resistance to leaf rust, currently the most devastating disease affecting the crop; and maize germplasm suited to mid-altitudes, which comprise eight million hectares in Sub-Saharan Africa. There is also good progress toward drought tolerance in maize.

He concluded his presentation with some comments on financing. With budget constraints and Mexican inflation, CIMMYT restrained '89 and '90 spending, stretching out some spending through '91 and into '92. Support and international staff were reduced by 10 percent. Unless 1992 budgets are met, essential activities will need to be cut and staff reduced by another 10 to 15 percent. Maize and wheat will be relatively more important to the developing world in a decade than they are today. Demands for productive, environment-sustaining technologies will be stronger. Alternative sources of supply for services like those offered by CIMMYT will be only marginally better.

Questions about triticale, the quality of grains for breadmaking and early yields were raised. Mr. Winkelmann responded that it is time for triticale to make its mark and they would be looking closely at this issue. He said that breadmaking quality is considered when varieties are being selected.

Other questions focused on the role of the private sector in hybrids and varieties, consideration of the value of straw and low levels of inputs when selecting varieties. Delegates asked whether CIMMYT was changing its strategies in regard to an ecological approach, what share of activities it intended to pass on to the NARS and how biotechnology is being incorporated into CIMMYT's research.

Mr. Winkelmann said that the private sector will continue to do a good job with maize hybrids and until wheat can be hybridized not much will happen in the private sector. Straw value is factored in and the breeding program in Zimbabwe is looking at a low-nitrogen strategy with some surprising results. As to the ecoregional approach, CIMMYT has featured the mega-environment concept in organizing plant breeding; there are ten for wheat and many more for maize.

He pointed out that training was an example of devolution to NARS. He explained that national systems want three benefits from international agricultural research. They are going to want to know that the program is stable, that the program has scientific credibility and that the program will be even-handed in the distribution of its product.

Biotech is the fastest growing part of CIMMYT, Mr. Winkelmann said, with visiting scientists and post-doctorals and staff all looking at ways to make conventional breeding more efficient and more rapid.

On the question of whether crop management research was yielding useful results, he said that while there are some outstanding successes, overall better results could be achieved.

Asked how CIMMYT incorporates local indigenous knowledge in maize cultivation, he said that CIMMYT's major sources of local knowledge are the national programs and data gained through field visits.

CIP

Board Chair Lindsay Innes and Director General Hubert Zandstra, both of whom took office on May 1, dealt with issues connected with finance, and the center's headquarters-site environment.

Mr. Innes discussed the difficulties of managing CIP's finances because of the problems of inflation. As a consequence CIP finished with a \$340,000 deficit in 1990. Mr. Zandstra had taken effective measures to reduce expenditures, in part by reducing staff members, with the result that CIP staff is now almost below a critical mass. TAC, however, was unable to recommend the necessary increase in CIP's 1992 budget to meet their approved research program

plus the necessary increase for higher security costs and for hyperinflation. CIP consequently faces a shortfall of \$2 million. Strong efforts are also being made to raise extra funding.

Although the security situation in Lima has not changed significantly over the past three years, there seems reason to believe that it is improving gradually. Insurgency activities in the vicinity of Huancayo resulted in a significant reduction of work at the high altitude experiment station and alternative sites have been developed in Cajamarca in the northern highlands of Peru and in Quito, Ecuador. Dealing with CIP's headquarters-site environment, Mr. Zandstra said that structural adjustment of the Peruvian economy was causing a lot of pain and difficulty, particularly for the local staff. The center faced a loss of purchasing power of 40 percent. Meanwhile, CIP's local operating costs doubled from 1988 to 1991. He enumerated the cost-cutting measures that had been implemented. During 1991, \$1.7 million had been cut. Part of the savings was from a reduction of international staff positions. No major headquarter expansion is projected although some equipment and facilities may need to be adapted to accommodate biotechnology.

Mr. Innes and Mr. Zandstra recorded their appreciation of the strong cooperation received from all staff. Peruvian staff had borne many difficulties in a resolute and extremely loyal fashion.

Introducing CIP's research program, Mr. Zandstra said that he had inherited from his predecessor Richard Sawyer a very functional center with excellent work habits and financial management habits, an excellent research program, and a highly decentralized, highly participatory institutional model. He paid tribute to Carlos Ochoa and Tamasa Quispe for their substantial and significant contribution to CIP's research.

Mr. Zandstra outlined several of the key strategic issues relevant to CIP's progress: biotechnology and the need to collaborate with the private sector; CIP's pursuit of clearly defined impact; and the challenges of sustainability.

CIP's two commodities, potato and sweet potato, behave quite differently. Potato production has been rising at a rate of 5 percent per year through both area expansion and yield increase. Since the early '70s sweet potato production has been stagnant. However, both crops can combine in a wide range of production systems, often through intercropping and sequential cropping, and they both tolerate shade well. High-value potato products allow it to compete excellently with many cereals.

Mr. Zandstra said that CIP's program was devised in terms of six constraint-based thrusts: production systems, germplasm management and disease management, insect and nematode management, propagation and crop management, post-harvest management, and marketing. Resource allocation will increase in the areas of crop and soil management and post-harvest management and over time an increase for sweet potatoes so that the ratio will eventually be 60 to 40 between potato and sweet potato.

CIP's potato research strategy will continue to maintain a healthy commodity focus, with emphasis on area expansion and cost reduction, particularly through reduction of the dependency of potatoes on chemicals and a reduction of the cost of seed materials. Sweet potato strategy focuses on increasing yields and sweet potato utilization because sweet potato is a highly nutritious crop and versatile in its uses for both human and livestock consumption.

Mr. Zandstra illustrated some of CIP's integrated pest management techniques for both host plant resistance and for biological control. He introduced the hairy potato which was developed in collaboration with Cornell University and the Italian government. Two potato varieties being evaluated in northern Africa show resistance to a wide range of insects because of the sticky substance associated with the hairs on the potato leaves and stems.

Some 70 food crops have been domesticated over the years in the High Andes. CIP proposes to mount a rescue effort to collect, clean up, protect, evaluate and make available the material for eight of these root and tuber crops that were recently highlighted in a Smithsonian Institution exhibit emphasizing the contribution of Latin America to the world in food crops. These crops are grown in complex production systems in this High Andean ecoregion. CIP's strategy will focus on achieving a better understanding of this basically orphaned ecoregion which is populated by some of the world's poorest people and has extreme land management and sustainability problems.

Mr. Zandstra thanked ISNAR Director General Chris Bonte-Friedheim for ISNAR's help in formulating CIP's six year plan and budget through their effective methodology used in national programs.

He closed by saying that the strategy is designed to make CIP's unique decentralized, highly participatory institutional model function better. The focus is on an impact-driven thrust and project-planning mechanism. CIP will increase participatory center management, seek to improve women's participation in research, and will increasingly move to ecoregional-based project planning.

Responding to questions, Mr. Zandstra said it was premature to comment in detail on TAC's low ranking of potato and sweet potato in the priorities study. They would be discussing with TAC some of the assumptions on which TAC's assessments were based in order to reach a common understanding about the numbers that go into the methodology for priority setting.

Asked for more detail about CIP's proposal for the High Andes, Mr. Zandstra said CIP would like to use complementary funding initially and this will require quick action because events are changing very fast in that ecoregion. On another point raised by a delegate, he said that CIP does not currently see the demands for sweet potato increasing. However, because of its unique biological potential and its high nutritional qualities, its importance might increase in

the long run. He acknowledged that greater synthesis was required between AVRDC and CIP in their work on the sweet potato weevil. CIP is talking with donors about the possibility of funding for special activity in Asia to test this.

CIP is seeking more efficient ways to gain access to often protected, technological resources in private enterprise in order to make them available to the national research systems.

On the possibility of CIP's likely interaction with Eastern Europe, Mr. Zandstra said that CIP is in contact with countries of that region to share scientific information, respond to requests for genetic materials, and provide training opportunities.

Mr. Zandstra closed by stating that CIP was contemplating the development of a biosafety facility; that this was not going to be a building, but a capability.

ICARDA

Introducing ICARDA's presentation, Board Chair Enrico Porceddu commented on the severity of the problems of the West Asia and North Africa (WANA) region which is no longer capable of feeding itself and today imports more food per person than any other region of the world. Population is growing rapidly and with only 8 percent of the region's land being arable, the threat of an environmental catastrophe due to overgrazing and water depletion is looming large.

Director General Nasrat Fadda presented background information on ICARDA and its location in an area with a range of ecological zones and long history of agricultural production. The WANA region covers some 23 countries with 8 percent arable land, 22 percent steppe and the remaining as deserts or semi-deserts. To meet future food demands for the area, FAO has estimated that only 7 percent can come from an increase in arable land, 21 percent may be possible from more intensive cropping patterns, leaving 72 percent to be achieved by increasing productivity. This means a sustained increase of over 5 percent a year which has not been attained in modern agricultural history.

Although food self sufficiency seems unlikely in this century, food self reliance can be enhanced through a combination of new technology, better farm practices, more favorable government policies and a more rational land use pattern.

Against this background, ICARDA has to meet the challenge imposed by harsh, stressful and highly variable environments in which the productivity of rainfed agricultural systems must be increased to higher sustainable levels, in which soil degradation must be arrested, and in which the quality of the environment is ensured.

ICARDA's research is currently organized around three multidisciplinary commodity programs: cereals, legumes and pasture and foraging livestock, and a farm resource manage-

ment program which integrates the commodity work with wider socioeconomic aspects of farming and sustainability of the resource base. The work is done within a context of a three dimensional structure involving an ecological dimension, a commodity thrust and an activity level or project-based matrix. This work is carried out in five major zones: deserts, steppe and native pasture, barley-livestock, wheat-based farming and highland zones.

ICARDA has opted to concentrate on the intermediate ecologies with a rainfall of 300 to 400 millimeters. However, ICARDA is also giving more attention to the dryer areas and the highlands because even though less promising, they are so extensive in the region that a small increase in their productivity would have a substantial impact on total production. As part of this new thrust the Iranian government has agreed to finance a highland research project near Tabriz, the original proposed site for a highland station.

In the commodity arena, ICARDA's main thrust is on food legumes. Both lentil and chickpea are vital components in rotations that sustain cereal crop yields and are potentially important in crop livestock interactions. Because of the rising demand for livestock products and the crucial place of animals in the farming systems of WANA, ICARDA will expand its work on sheep and extend it to goats. Seven integrative activities are central to these programs — agroecological characterization, germplasm conservation, germplasm enhancement, farm resource management, training and networking, information dissemination and impact assessment.

ICARDA has based its work on agroecologies primarily within a regional context. Instead of having cereal, food legume and other programs, it could restructure its research programs for the pasture steppe, the wheat-based system, mixed farming systems and the highlands. Its mandate might have to be widened to include other elements needed for the comprehensive study of each zone, such as other crops grown in crop rotations and other practices such as irrigation and supplemental irrigation in the dryer zones.

In the ensuing discussion, delegates sought information on ICARDA's relations with other centers, and with national programs. The apparent restrictiveness of ICARDA's current mandate, and the impact of a shortfall in system funding were raised as well. Questions were asked about research in the steppe areas, irrigation and supplemental irrigation, the need for policy on socioeconomic issues, and the possible role of oilseed crops. Some delegates inquired whether ICARDA is planning any interaction with the republics of the southern Soviet Union and other countries of southern Europe.

Mr. Fadda affirmed that ICARDA had a very close relationship with the NARS, meeting annually with practically every country. Work on dryer areas and the steppe are a declared objective and a better understanding of the socioeconomic issues in these areas is needed. The current

mandate does not preclude ICARDA from working on oilseeds as part of a cropping pattern. The current mandate has to be considered in terms of the group of centers rather than individually; other centers work in the area as well and there is teamwork on these projects.

In dealing with budgetary constraints, ICARDA has not changed the philosophy or the approach, the timetable has been shifted. Changes must be phased in over a period of time. There does not seem to be antagonism between the ecoregional concept and the commodity approach; it is a matter of emphasis rather than exclusion.

Mr. Fadda reported that three years ago ICARDA formalized relations with the Soviet Union for mutual cooperation. Joint collecting missions have been conducted, with the Russians focused on drought tolerance and ICARDA on cold tolerance. More than 25 visiting scientists from Russia have spent time at ICARDA. Last summer an intercenter group visited the Soviet Union and a range of activities on which to cooperate was identified. There have also been inquiries from two East European countries asking for assistance with their agricultural research systems. This could be an intercenter activity.

- Mr. Porceddu informed the Group that ICARDA accepts the interim management review in its entirety.

ICRAF

Board Chair George Holmes, introducing ICRAF's first presentation as a CGIAR member, thanked the Group for inviting ICRAF into the CGIAR system. As Chairman of the Bellagio Forestry Task Force which reported to the Group in 1988 on how to strengthen international research on the problems of tropical deforestation and sustainable use of forest land, he was personally pleased that the Group had moved ahead with two centers, ICRAF and the proposed new forestry entity. His vision and that of the Board's is that the two centers will quickly develop a closely integrated research program on forestry and agroforestry worldwide, involving many institutions and demonstrating different ways of getting things done.

Mr. Holmes reported four major decisions recently made by the Board. First, the Board approved the discussion paper "ICRAF in the CGIAR: The Way Ahead" as the new draft strategic plan. Second, they amended the charter of ICRAF to re-name it as the International Center (not Council) for Research in Agroforestry. Third, they acknowledged the possible role of ICRAF as an ecoregional center. Fourth, they approved the program and budget for 1992 which is the first action to be taken on the strategic plan which provides for expansion into Latin America and Asia. He noted the increased level of funding required in order to begin to address the research agenda now expected of ICRAF.

Mr. Pedro Sanchez, ICRAF's new Director General, opened his presentation by quoting the Board's definition of ICRAF's purpose: "to mitigate tropical deforestation, land

depletion, and rural poverty through improved agroforestry systems.” He said that ICRAF planned to focus its work on these two major problems of tropical deforestation and accompanying environmental concerns related to biodiversity; to examine climate change in the humid tropics; and to address the problems of gross land depletion in the subhumid and semiarid tropics.

ICRAF currently has senior staff stationed in 16 countries in Africa through agroforestry research networks (AFRENAS) and intends to begin collaborative research in the humid tropics of Latin America and Asia in 1992. In the subhumid tropics, the center will concentrate its efforts primarily in Africa, in the eastern and central highlands, as well as in the plateau of southern Africa where there is already an investment of resources. And in the semiarid tropics, collaboration with ICRISAT and the Sahelian countries will be continued and strengthened.

ICRAF has five research programs. Land use system analysis concentrates on land resource evaluations, Geographical Information System (GIS) methodologies, biophysical and socioeconomic evaluation and data base development and maintenance. Mr. Sanchez said the center was proud to present this year its multipurpose tree and shrub data base compiled in collaboration with German agencies.

The germplasm program, called the multipurpose tree selection improvement in management, concentrates on selection, including conservation. He cited the need for a physical germplasm center in order to provide seeds and planting materials to their collaborators.

The third program, resource management, covers the very complex interactions between trees, crops, livestock and people that must be managed in a way that is to the farmer’s benefit. He indicated that ICRAF would be addressing the problem of understanding the systems, the competition for light and in the soil for water and nutrients, by using already established nutrient recycling programs.

ICRAF’s assessments improvement program is new and will look at alternatives to slash and burn and reclamation of abandoned lands through the use of agroforestry in the humid tropics. Overcoming land depletion will be the focus in the subhumid tropics and in the semiarid tropics woodlands will be studied. He went on to give specific examples of approaches and systems that ICRAF will be researching.

The socioeconomic program, also referred to as policy adopting and impact research, provides feedback to all of the other programs by looking at land tenure, tree tenure, gender issues, and adoption dynamics and constraints. Mr. Sanchez went on to highlight ICRAF’s training effort which involves several programs. It is a strong well-established program concentrated in Africa and will expand to Latin America and Asia through collaborative agreements with new partners.

In answering questions that followed his presentation, Mr. Sanchez stressed that ICRAF’s priorities are very much in line with the CGIAR’s priorities of a regional focus on the humid tropics, subhumid and semiarid tropics. ICRAF’s activities break down as follows: natural resource management, 30 percent; germplasm, 21 percent; sustainable production systems, 11 percent; policy and socioeconomics, 13 percent; and strengthening NARS, 25 percent. These figures are within three to four points of TAC’s priorities for 2010, he pointed out.

The most critical issue for ICRAF is finance, Mr. Sanchez explained, because the center is in a growth pattern in order to be global and to do strategic research. Some funding is generated for the AFRENAS from restricted core and from local resources. Research is 55 percent of the total budget and 50 percent of the staff is posted away from the headquarters. IBRAM is mentioned as a potential collaborator and ICRAF is willing to collaborate with anybody who has common interests. Agreement with IITA has been established and the consortium of CATIE, IICA, and CIAT has invited ICRAF to join them.

Dealing with the question of strategic research, Mr. Sanchez said that ICRAF would pursue good research that meets both a strategic and an applied need. The work with AFRENAS will continue to be participatory. On breeding versus selection, probably more can be done with selection with breeding used for only very specific sites, he said. In working in Latin America collaborative arrangements will be stressed.

“We don’t intend to build buildings. We intend to have a small critical mass of ICRAF people assigned to a place where the action is, a place where you can walk out and face the problem right away.” In Asia, ICRAF will want to link up with the successful agroforestry networks such as F/FRED and some of the ACIAR activities. The coastal areas will probably come under the new forestry entity because ICRAF’s mandate is to work in areas where trees are together with crops and animals. Sanchez closed by saying that the collaborations at the working level between ICRAF and the new forestry entity are excellent. “We have recognized areas of overlaps. We consider them areas of opportunities rather than areas of conflict.”

IIMI

IIMI, one of the centers that entered the CGIAR system in the ICW90 expansion exercise, made its first presentation as a CGIAR center. Board Chair David Bell, placing IIMI in its new context, conveyed to the Group the Board’s pleasure that IIMI had been admitted into the CGIAR. He announced that he would be succeeded in January by a well-known CGIAR figure, Mr. M.S. Swaminathan.

Mr. Roberto Lenton, Director General, explaining the importance of irrigation to global food production said that currently 2.5 billion people are supported by irrigated agriculture. The growth rate for irrigated agriculture will need to be 3 percent per year to meet demands by the year 2000. The potential for increased production by irrigation is threatened by deteriorating water supplies due to skyrocketing usage and the low efficiency of most irrigation systems.

Irrigation systems vary widely in size and design. Even those in areas with abundant water supplies operate far below expected levels of productivity, equity and sustainability. Water is often unevenly distributed, delivery rarely corresponds in quality and timing to the farmers' crop requirements and in many systems waterlogging and salinity induced by irrigation are threatening the sustainability of irrigated agriculture. Irrigation management has been largely neglected in the research agenda. Even those countries that have well-established national commodity research systems do not have an equivalent national irrigation management research capacity.

Against this background, six issues have been given highest research priority:

- how to develop practical means for measuring the performance of irrigation systems;
- how to improve the delivery of water for irrigation;
- how to bring about change in irrigation organizations;
- how to improve the policies and overall institutional arrangements that govern irrigated agriculture;
- how to help farmers participate effectively in irrigation management and how to insure that the productivity, incomes and quality of life of low-income farmers, and especially women, can be enhanced through better irrigation; and
- how to develop stronger links between the requirements of irrigation management and the elements of sustainable environmental use.

In pursuit of these priorities, IIMI conducts collaborative research with colleagues from developing countries to seek environmentally sound and lasting improvements in irrigation management in actual settings.

Through training and dissemination activities, as well as collaborative research, IIMI is helping to build national irrigation research and management capacity. About half of IIMI's scientists are outposted in field offices situated in key countries in the developing world. Consequently IIMI's relationships with national programs are close and effective. The field staff is complemented by a multidisciplinary group of headquarters-based staff, whose primary purpose is to pull together disparate lessons learned from many settings and within a coherent thematic program to develop generic information of practical use to the irrigation community.

Mr. Lenton highlighted some of IIMI's accomplishments over the last seven years by reviewing three projects: managing a large-scale irrigation project in Pakistan to

minimize waterlogging and salinity; the global research network on farmer-managed irrigation systems (FMIS) that assists small-scale irrigation systems; and the unique opportunity afforded IIMI by its host country, Sri Lanka, to assist in the development of policies on irrigated agriculture and their implementation.

Referring to IIMI's organizational development and future needs, he said that the center should continue for several years at its current stage of substantial annual growth. It needs badly to achieve a better balance between unrestricted and restricted funding. Currently its unrestricted funding is only about 25 percent, which limits IIMI from selecting a major share of its own research agenda.

Delegates expressed concern over the deterioration of large-scale, supply-driven, public-sector-managed irrigation systems and asked how soon IIMI might have an overall comprehensive plan to deal with these. Several questions were asked about IIMI's collaboration with other institutions and international centers, particularly the International Program on Research and Technology in Irrigation and Drainage (IPRTID), housed at the World Bank.

Bank representative Michel Petit said that IIMI's collaboration with IPRTID seemed to be exemplary and that in the future it might be appropriate to fold IPRTID into IIMI. Mr. Lenton said that the specific linkages with IPRTID were at the Board level with observer status. He indicated that IIMI also had good relations with other organizations in developed countries, for example in France, Japan, and the Netherlands. More opportunities for similar collaboration were anticipated, following IIMI's inclusion in the CGIAR. Two CGIAR members, Germany and the United States, have appointed scientists to liaise with IIMI scientists.

Other questions included whether IIMI was looking at the question of recycling drainage water, the number of outposted staff necessary for a project to be operational, whether IIMI was planning any work in Latin America, the relationship of the Pakistan program with other IIMI activities, and how to assess the impact of IIMI's Sri Lanka program.

The possibility of adapting irrigation systems designed for rice production to other crops, particularly in Asia, was raised. Delegates inquired whether IIMI was working with other centers to solve the problems of introduced pest and disease regimes and farmers' health issues at irrigation sites. Information was sought, too, as to whether IIMI would be participating in the conference on the use of water for agricultural purposes in Dublin in January.

Responding to some of the points made, Mr. Lenton said that as water becomes more scarce there will be more demand for an integrated approach toward water resources and the Dublin meeting would be a vital one in looking at water resources broadly, not just for irrigation management. IIMI has established an Irrigation Management for Crop Diversification (IMCD) research network which has a strong level of interest in Asia. The Pakistan work is comple-

mented by the thematic work done at headquarters and the results of the Pakistan program are integrated into other country programs. The policy work in Sri Lanka is based on a long relationship and established credibility, he explained. IIMI has been asked to play a role in implementing these policies as well.

IITA

Board Chair Nicholas Mumba, who introduced the presentation, informed the Group that the much talked about headquarters agreement of IITA was finally gazetted by the Federal Government of Nigeria.

Director General Lukas Brader said that IITA was carrying out a well-balanced and productive agenda in research and international cooperation, although budgetary limitations prevented IITA from operating its full 1989-1993 plan.

Highlighting progress in crop improvement, Mr. Brader said that IITA was excited about polyploids which double or triple the yield of traditional varieties of cassava. Work continued on cassava green mite resistance and on reducing the level of cyanide in cassava.

New yam materials consistently show a 50 percent increase in production over local varieties. In maize, disease-resistance work continues to be the focus with good results in striga, downy mildew and streak resistance. The introduction of hybrid maize has increased maize production specifically in the northern savanna zone. Seed companies are now established in Nigeria and in neighboring countries.

Various wild species with sources of resistance have been identified for cowpea. Material with striga resistance is about to be introduced to farmers. The increase in soybean production can be attributed to an increase in seed longevity and to developing varieties that form symbiotic nitrogen-fixing nodules without artificial inoculation with nitrogen-fixing bacteria. Black sigatoka has been spreading through Africa affecting plantain. IITA has identified sigatoka resistant clones and is now field testing this resistant material. Early results are extremely promising. He affirmed the effective collaboration between INIBAP and IITA.

In the area of biological control, a predatory mite of the cassava green mite has been released and well-established in Kenya and Benin and is keeping the pests well under control. Parasites are being used in controlling cowpea thrips and parasites from Latin America are being introduced to control the larger grain borer of maize which causes losses in stored maize.

In the crop management program, studies on alternatives to slash and burn agriculture show the need to maintain organic matter in topsoil, maintain continuous crop cover, use only equipment with low pressure on the soil, take steps to loosen compacted soil, avoid continuous monocropping, use fertilizer judiciously and use disease-resistant crop varieties. IITA is applying these principles in developing systems

which will be sustainable and more productive than slash and burn systems.

Mr. Brader said what the researcher needs is a practical yardstick for assessing the relative sustainability of different agricultural systems and of evaluating the factors that determine sustainability. IITA has been constructing operational measurements which merge biological, physical and economic measures into a single economic index, that of total factor productivity. Total factor productivity is defined as the total value of all output produced by the system during one cycle divided by the total value of all inputs used by the system during the same cycle.

In studying gender issues, data shows that from region to region the number of tasks taken up by women varies considerably. In this connection, Mr. Brader said that in cassava post-harvest technology, the production of gari and other products as a package well adapted to village-level needs is increasingly being adopted by rural women cooperatives. Processing losses have been reduced by over 54 percent, labor input is reduced by more than 70 percent and fuelwood consumption is reduced by 30 percent.

Mr. Brader indicated that in addition to technology transfer to NARS it is important to provide inputs for strengthening their operational capabilities and that further developments in this area by SPAAR could be useful. He cited the Alley Farming Network for Tropical Africa as a multi-institution, multi-donor effort which has effective cooperative arrangements with 30 NARS in 20 countries.

Increased production and consumption of both soybean and maize has been noted. Maize is now in 70 percent of the villages. The widespread introduction of maize, however, also gives concern because there is a shift from mixed cropping to monocropping, so alternative patterns of cropping maize, particularly by introducing grain legumes in order to get a proper rotation and maintain soil fertility, are being studied.

Mr. Brader said the impact of the new technology shown by these examples allowed a bit more optimism about achieving the 4 percent growth necessary in agricultural productivity projected by a recent World Bank report to feed the hungry in Africa.

Looking to the future, he said that IITA has initiated a series of internal institute-wide seminars on each of the institute's areas of focus. This was an opportunity to look at the new priorities and to look at widening the geographic focus of the center in relation to ecoregional responsibilities for the humid tropics and moist savanna regions of Sub-Saharan Africa and they would be addressing this in their new medium-term plan.

The constraint of time resulted in only a limited discussion of the IITA presentation. Questions and comments focused on IITA collaboration with other centers and the question of whether the striga resistance would be durable. Responding, Mr. Brader said that in any ecoregional approach there

should be a lead center in the discussions and cooperation with the NARS. He indicated that center directors are making an excellent proposal for next year's meeting of the Center Directors Committee to be held in Africa with all of the research leaders from the NARS in Sub-Saharan Africa being invited to discuss their problems. From a purely cost effective point of view this is the right direction.

With respect to biology and striga, it is a very difficult plant. There is an internal working group on striga that comprises six staff members from various disciplines and an inter-regional working group bringing together the various African experts and the experts of the other centers, such as ICRISAT and CIMMYT, to review progress and to determine what further research is needed.

ILCA

Opening the ILCA presentation, Board Chairman Dieter Bommer commended the staff who had continued to work even under adverse circumstances. They had confronted serious challenges in the past year with dedication and skill. He was pleased to report that no harm had come to the staff, national and international, and to their families, or to the institute's assets and research facilities. A less tense and difficult period was anticipated in the days ahead. The Minister of Agriculture from the new interim government had already visited ILCA and good relations are being established from the beginning.

Director General John Walsh focused on ILCA's partnerships. ILCA is faced with the perennial problem of how to improve livestock production in a continent the size of Africa with so many varying ecological and socioeconomic microenvironments. Thus, he said, forming research alliances that would increase the center's research or "effective size" is at the heart of ILCA's operations. ILCA has concentrated on developing collaborative research networks with NARS in Sub-Saharan Africa.

He highlighted ILCA's involvement with individual countries through memoranda of agreement, training programs and publishing. ILCA maintains a Sub-Saharan African data base which includes information on livestock research for Sub-Saharan countries and institutions.

Mr. Hank Fitzhugh, Deputy Director General for Research, went on to provide details about some of ILCA's research alliances. Research activities continue to focus on six thrusts: three dealing with commodities from ruminants—meat, milk, and traction; and three emphasizing strategic research on feed resources, trypanotolerance and policy and resource management. About a fourth of ILCA's 65 scientists are located at headquarters and the remainder are at representative ecological sites in seven countries.

ILCA has three types of alliances: joint research teams of NARS and ILCA scientists conducting research on problems of mutual interest and priority within a country; collaborative

research support networks of NARS scientists; and collaborative research networks of ILCA and NARS scientists working together. As examples, Mr. Fitzhugh discussed ILCA's joint vertisol project and its forage genetic resources partnership.

Mr. Guy D'Ieteren, leader of ILCA's trypanotolerance thrust, illustrated ILCA's involvement in collaborative research networks by discussing the trypanotolerance network which was established in 1983. There are currently six countries where collaborative research activities are underway—Senegal, The Gambia, Cote d'Ivoire, Gabon, Zaire and Ethiopia. Recent research using diagnostic tools developed by ILRAD indicate that trypanotolerance is not only a breed characteristic but is also a heritable trait.

The areas covered in questions posed to the ILCA team included collaborative work on agrosilvopastoral research; the gender issue at ILCA; the center's relative emphasis on different types of livestock; and whether ILCA's research effort adequately reflects the conclusion reached by the Winrock Institute that 50 percent of future meat production in Africa will be from small ruminants.

Several members of the Group asked about ILCA's collaboration with the International Trypanotolerance Center (ITC), Centre de Recherches sur les Trypanosomoses Animales (CRTA) and the many other groups working in this arena and whether the relationship among all of these groups has been worked out. With so much positive and long-term networking going on what is the outcome of this networking on strengthening the NARS and has ILCA actually reduced its budgeted amount for work with NARS? Does ILCA have contingency plans for mobilizing past research findings if a major drought as a result of the El Nino effect hits Sub-Saharan Africa next year?

In responding to the questions, Mr. Walsh explained that the relationships with ITC, CRTA and other organizations are programmatic relationships, with each organization adding their specific skills. ILCA has had two senior staff posted at ITC as part of the network. Approximately 20 to 25 percent of ILCA's budget is directed toward NARS and networking and ILCA intends to expand this if possible. Assessing impact on networks is difficult; published work is one factor and much of the rest is over a period of time as livestock production improves in the many microenvironments as a result of national programs.

Mr. Walsh agreed that gender issues are important and that their programs are looking at who's doing the marketing. However, when it comes to women staff, the percentage for international staff is 6 percent. Mr. Fitzhugh emphasized that in addition to looking at the roles of men and women, the role of children is also assessed because they often play an important role in caring for livestock.

ILCA is collaborating with ICRISAT and ICRAF on agrosilvopastoral production systems and has a joint research program in Kenya with the Kenya Agricultural Research

Institute. ILCA also has a long-time association with IITA on alley farming in which livestock are incorporated as part of a system involving multipurpose trees and crops. This has resulted in the development of a research support network, FNETA, the alley farming network. The national scientists in this network are often focused on farming systems in which women are the principals in the farm family.

ILCA gives as much attention to small ruminants as cattle if one leaves aside animal traction. And ILCA is working in the semiarid, subhumid and humid zones and working with all three species. Much of the work is generic across all of the species whether the research topic is nutrient cycling or feed resources.

IRRI

In his opening comments, Board Chair Walter Falcon stressed that IRRI is today a much leaner organization than it was two years ago. The center has 700 fewer employees. IRRI has put into place a matrix management system that focuses heavily on eco-based systems with increased sensitivity to sustainability issues. IRRI has decentralized in important ways by devolving some of its activities and it has built strong partnerships with NARS, both in developed and less-developed countries, on some of the key issues facing rice research around the world. Important scientific advances have been made in trying to combat the very difficult problem of a yield ceiling that has been almost constant, even perhaps declining a bit, at the experimental level over the last 20 years. Two new approaches are the development of a new ideotype rice plant and increased emphasis on hybrid rice.

Director General Klaus Lampe described IRRI's new goal as improving the well-being of present and future generations of farmers and consumers, particularly those with low incomes. IRRI's policy includes research relevance, environmental sustainability, disciplinary strength and interdisciplinary focus and efficiency and equity.

He pointed out that 68 percent of world population is Asian and that 71 percent of the world's poor live in Asia. By the year 2020, half of the world population is expected to live in cities resulting potentially in tremendous urban poverty and severe disturbances.

What are the strategic choices in this context, he asked. IRRI is seeking a balance among the rice ecosystems, researching both irrigated and other ecosystems; among the world regions, even though 90 percent of rice is grown in Asia, IRRI can have an impact in other areas; and between conducting research and enhancing the living and working conditions of national agricultural research systems. IRRI wants to work with ICRAF in a joint project to avoid or reduce slash and burn to the extent possible. Upland rice farmers who run out of resource base after destroying the rain forests will become urban poor.

Progress has been made in tropical hybrid rice; the ideotype for high-yielding, direct-seeded rice has been designed. A protocol for incorporating novel genes for improved varietal resistance to pests has been developed, and work is being done on ratooning, a very old technology that with new knowledge can be revitalized and combined with engineering technology like the stripper harvester for a successful ratooning program. The hybrid rice tested in seven countries in the tropics have 15 to 20 percent higher yields. The seed yield for hybrid rice has been increased to almost two tons which makes it more appealing for low-income farmers. Training courses for hybrid rice production have been run and collaboration with the private sector has started.

A biotech lab has been established and IRRI is participating in a joint genome mapping project with Cornell University where they will have a coworker. Links will also be established with the Rockefeller rice biotechnology program and with private sector institutions. IRRI will become a pillar of a transformation station to connect national programs. The regeneration of Japonica and Indica is completed and work on the molecular analysis and genetic analysis is continuing.

Deep-water rice breeding will be transferred to Thailand. Pre-breeding work will continue through the International Network for Genetic Evaluation of Rice (INGER). Since 1988, more than 50 national varieties originating from IRRI lines have been released from 17 countries. IRRI is looking at the possibility of nitrogen-fixing nodules on rice roots and has invited the world's experts to meet at IRRI in March.

In upland and deep-water rice, conservation farming with natural vegetative filter strips and nematode control by rice/legume rotation are being studied in order to avoid slash and burn. Upland rice is a component in an ecosystem, so collaboration is being done with other crop research.

A recent study on the impact of pesticides showed an added value of 60 percent without the health cost factor, but with health costs calculated in, a 4 percent loss. Discontinuing pesticide use quickly is difficult and health hazards to farmers can be reduced with innovations like smaller sprayer nozzle heads.

Methane is contributing to global warming and the flooded rice contribution is significant so IRRI is looking at redesigning rice plants to reduce methane release.

IRRI has started an external peer review system. Last year's reviews included women in rice farming, hybrid rice, tungro virus research, the INGER review and sustainability issues in rice production. This year reviews have looked at grain quality, training programs, biotechnology research and publications and documentation. In international programs a shift from M.S. training to PhD training and visiting scientists is notable. In partnerships IRRI is encouraging training institutions to develop courses with them and then go home and teach the material with IRRI backstopping.

Mr. Lampe said that instead of technology transfer, IRRI was looking for knowledge-sharing. IRRI's emphasis is on partnerships and complementarity. IRRI's role is to

strengthen national systems by establishing research consortia; sharing resources; sharing problems; sharing a research agenda; dividing, based on the individual's strength, the research projects, and sharing the results afterwards. There is already a rainfed lowland rice consortium, one for upland rice, and the rice-wheat project with CIMMYT.

He talked about the problems facing some of IRRI's partner countries and the potential in eastern and southern Africa where 23 million hectares of potential rice land is not being used. The Philippine government and the biosafety commission have agreed to build jointly with IRRI a containment facility which will be shared with the University of the Philippines which also has a biotech institute.

Mr. Lampe said that RICE can be an acronym for Research in Crucial Environments and that IRRI would work toward supporting the poor who live in miserable conditions in Asia, Africa and Latin America.

Mr. Lampe was asked about the progress made in the field of integrated pest management (IPM), involvement of the private sector in hybrid rice seed, and future plans for deep-water rice research. IRRI's program and budget statement was commended as being well organized and documented so that it was very useful in explaining IRRI's significance to others.

IRRI in close collaboration with FAO had helped facilitate IPM as a national policy in Indonesia. But that was marginal, Mr. Lampe explained, because the primary contribution was made by the government which created the political climate for IPM, cutting subsidies to zero and disallowing the import of distinct pesticides. This has not created what was expected—lower yields—on the contrary, the yield remained the same or increased slightly.

IRRI was not giving up on deep-water rice; it would continue pre-breeding and would support the institutions where this ecosystem is at home.

ISNAR

Board Chair John Dillon explained that in addition to an external program and management review recently conducted at ISNAR, the board and management had decided to develop a revised strategy. The new strategy as well as the review report and responses will be presented at the 1992 mid-term meeting. Mr. Dillon indicated that the demand for ISNAR's services far exceeds their supply capacity and he commended the dedication by both staff and board in doing their job as well as possible.

Director General Chris Bonte-Friedheim's presentation was on the theme "NARS in a New Age." In doing so, he presented a list of issues which affected the development of national agricultural research systems. These included population dynamics, the widening gap in food self-sufficiency and food security, the impact of AIDS on the labor force producing food, depletion and degradation of natural

resources and the environment, both macro- and micro-climate changes, financial constraints and urbanization.

Pointing out that the growth of the NARS in developing countries has been uneven, he said it is unrealistic to expect that they will grow and consolidate into one homogeneous group. Strengthening NARS requires ISNAR and the CGIAR system to think globally and to act locally by supporting individual and specific strategies for each unique situation.

NARS have made significant progress in the last decade and have acquired greater strengths in numbers of well-trained scientists and experience in research. Today efficiency and effectiveness are emphasized. It is these public sector organizations that have the capacity, organization and resources to carry out all the necessary location specific, adaptive and on-farm research which is required to link research with the extension services and the farmers. It is these subsistence farmers, who provide daily food and guarantee the survival of large numbers of people who must continue to be serviced. And it is these public sector organizations who can follow through on national policies and address long-term sustainability concerns.

The mandates for most NARS have been widened to include natural resources and their management and conservation, the environment, pollution and contamination, general and specific sustainability issues, post-harvest, storage, processing and quality aspects, and upstream research like biotechnology. Other issues include yield stability of major crops, system-wide design and development and the synthesis of traditional with new considerations. All of this requires a redefinition of the term NARS and what it encompasses as well as a discussion of the structure and organization required to deal with the new challenges.

The movement toward regionalization and ecoregional zoning may create a critical mass of scientific endeavor which will be required to solve major problems and at the same time it may create a confusing proliferation of linkages and contact organizations, competition for funding and a brain drain of the best staff.

ISNAR takes a three-pronged approach in dealing with the needs of national systems. ISNAR supports certain selected organizations within the NARS as partners in their comprehensive institutional development; is active as a research and experience-based service focusing on specific components; and collects, analyzes and disseminates relevant information on NARS and agricultural research policies in developing countries.

ISNAR is a dependable partner to a few, only ten to fifteen due to capacity limitations, selected NARS providing a long-term basis for collaboration on their intensive system and institution building. ISNAR seeks multipliers to extend their knowledge and like new varieties, the tools and management approaches need to be adapted for use in specific environ-

ments. ISNAR is willing to assist the other international centers in improving their services to NARS.

In response to the TAC report on NARS presented in Paris at the 1991 mid-term meeting, ISNAR has identified the following eight priority proposals for strengthening NARS:

- apply a systems approach in supporting agriculture and especially agricultural research in developing countries;
- assist developing countries in planning agricultural research and in setting their own priorities and evaluating the results;
- accept the national coordinating role for the publicly funded sector of the NARS;
- strive to become dependable partners of NARS;
- be understanding donors, flexible and responsive to existing and changing local conditions;
- assist NARS especially during periods of adjusting and changing their mandate, their priorities, their organizations and their structure;
- adjust and limit our administrative control and technical evaluation requirements; and
- ensure that our own research agendas reflect and support national agricultural research priorities.

During the discussion that followed, FAO cosponsor, Mr. Philippe Mahler acknowledged the effective cooperation which has developed between FAO and ISNAR.

Responding to points made by delegates, Mr. Bonte-Friedheim assured the Group that there is not a homogeneous group of NARS and no one solution that fits all. Institution building can take eight to ten years or longer. Measuring impact is by whether after collaborating with a NARS it can have a political, economic, management role to play in the country and whether it can adapt to change and make decisions.

On working in Eastern Europe—a point raised in the discussion—he proposed that a totally owned subsidiary of the centers, financed from outside, should deal with this region.

Answering a question on regional priorities, he said that in ISNAR's first medium-term plan, 50 percent of the resources were meant for Africa. This amount will be reduced somewhat but not too much. ISNAR has done one country plan for SPAAR for Tanzania and now awaits the donors pooling their resources as agreed for implementation along the lines approved by the Tanzanian government. National authorities should play the coordinator role.

ISNAR is starting a study on networks. There is a lot to be learned from networks but safeguards must be in place to ensure that the networks are really a representation of the priorities of each of the members and don't drain resources from the others.

Before closing he was handed a note which he read to the Group: "With or without CGIAR, NARS have a future; without NARS, CGIAR has no future."

WARDA

Mr. Ray Audet, a member of WARDA's Board, introduced the center's presentation on behalf of Board Chair Heinrich Weltzien who could not be present. Mr. Audet assured the Group that WARDA was alive, vibrant and looks forward to the challenges ahead.

Director General Eugene Terry said that WARDA's transition phase had been successfully completed and the center was now in the second year of its first medium-term plan. WARDA staff have established a young, vigorous and innovative center for rice science in Sub-Saharan Africa. They have redefined their relationships with national program colleagues and are implementing new methods to strengthen those partnerships. Their new approach includes the devolution of certain regional responsibilities and leadership to stronger national agricultural research systems. This was experimental, he said, and WARDA hoped that all could benefit from the lessons that would be learned.

In the remaining three years of the medium-term plan, WARDA hoped to demonstrate that the center has truly become a center of excellence. National programs will have taken on new roles and will be working together in new complementary arrangements. WARDA, on its part, would have successfully advanced the development of high-yielding, well-adapted rice varieties for three or four target rice production environments.

In the area of training, WARDA would have assisted national scientists to achieve the capacity for leadership in training rice scientists and technicians in the region. The center would also have completed the diagnosis of the major resource management problems facing the African rice farmer and would be well on its way to developing technologies to solve these problems. Important progress is expected as well in the areas of integrated pest control and in the management of adverse soils.

He was confident, Mr. Terry said, that WARDA can now play an effective and meaningful role in the evolving structures for tackling resource management and commodity improvement research in Sub-Saharan Africa.

Questions were asked concerning funding constraints in relation to expansion plans; the role of farmers in WARDA's research agenda; and the use of traditional rice varieties. Delegates wished to know, too, the reason why the demand for rice in Africa had increased.

Mr. Terry was asked to elaborate on the rice potential in upland areas, on productivity constraints, and how WARDA sees itself in relation to the commodity and ecoregional center concepts endorsed by the Group at ICW90. Another area of inquiry was WARDA's relationship with compatible organizations such as CORAF and SPAAR and the mechanisms for interaction with NARS.

A suggestion was made that a second 'R'—for "research"—be added to the center's acronym, thus making a

clean break with the past. The center was encouraged to continue the practice of using the two languages in publications, training and research.

During his response, Mr. Terry affirmed that WARDA had excellent relations with CORAF and would be identifying areas of complementarity. He did not see any areas of competition or duplication with SPAAR, and WARDA was working with SPAAR in all the frameworks for action in Sub-Saharan Africa.

Mr. Peter Matlon, WARDA's Director of Research, explained in detail the involvement of farmers in the research agenda from interdisciplinary field surveys to on-farm tests in which the technologies are provided to farmers who manage the use of these and provide feedback. In both the on-farm trials and on-farm tests, the national programs are fully involved as well.

Mr. Matlon reported that according to a recent analysis by IFPRI, increased demand for rice in West Africa (consumption is growing at 8 percent per year) is due to population growth and urbanization. Urbanization is leading to changes in the employment structure and a demand for convenience foods.

Turning to traditional varieties he said that over the last two years WARDA completed characterization of several collections of traditional materials collected by ORSTOM, CIRAD, IITA and WARDA. Promising sources of various traits have been identified and will be used in the hybridization program. Work continues on *Oryza glaberrima*.

On the question of WARDA's experience with small grants, Mr. Matlon replied that there were a number of task forces with national programs that reviewed proposals and made decisions. The average size of the grants is between \$3,000 and \$6,000 per year.

Dealing with the potential for improvement of upland rice, he said that the average yield is one ton per hectare and the yield potential is about four tons per hectare which works out to a 75 percent yield gap. Analyses are being conducted to identify the major components of this yield gap. Adverse soils and buyer distresses are thought to be the primary causes. The major problem with the upland rice systems is sustainability because of the need to go into long fallow rotations due to macronutrient depletion and weed invasion. WARDA is looking at ways to work together with farmers to exploit their existing knowledge for erosion control, the other major problem in upland systems.

Director of Administration Gordon MacNeil said that WARDA certainly could not expand into other parts of Africa with its current funding situation. The center needed to cover the shortfall for the capital development program and then stabilize funding at the 1992 projected level which is slightly higher than 1991.

The WARDA presentation included a recently produced video, "WARDA: Building New Ground."

FUNDS FOR RESEARCH

Approval of 1992 Programs

The Group approved programs requiring expenditures of \$332 million for all 17 CGIAR centers, including the proposed forestry center, and \$75 million for complementary programs, for a total of \$407 million in 1992. CGIAR Executive Secretary Alexander von der Osten who led the discussion on this item said that programs and funding levels had all been reviewed and approved by TAC. However, funding requirements were greater than the projected supply of funds that would be available.

There were a number of reasons for the expected mismatch. One of them was the medium-term planning process which had been rigorous but lacked a tight, realistic ex-ante assessment of resource constraints. He drew the Group's attention to the institutional measures taken so far to correct the imbalance, including the inclusion of an ex-ante constraint in the next round of medium-term planning.

When announcing their financial pledges for 1992, donors expressed their continuing support for the work of the CGIAR. To the extent possible they would ensure that contributions for research at the CGIAR centers would not drop over the long term.

They were particularly hopeful that the increased emphasis on natural resource management research, including forestry, would attract more financial support despite the fact that there was fierce competition for "development assistance dollars" in all donor countries. They emphasized that as usual pledges made at ICW were subject to legislative approval in the home capitals of CGIAR members.

Donors appreciated the need for a better correlation between the availability of and demand for resources. This was a reality that had to be faced. They welcomed the realistic approach taken by Mr. von der Osten and hoped it would lead to budgetary stability which was a prerequisite for program stability.

Pledging of Funds

Mr. von der Osten announced that the pledges for core support of all 17 centers (i.e. including the proposed new forestry center) was estimated at \$251 million. In addition, it was expected that the centers would receive complementary funding of some \$63 million — for a total resource flow to CGIAR centers in 1992 of \$314 million.

Overall core funding for 1992 would be \$6 million less than in 1991 (\$257 million). The 13 pre-expansion centers would experience a drop of \$10 million — \$226 million for 1992, down from \$236 for 1991. For the three "expansion centers" (ICRAF, IIMI and INIBAP, which were included in the CGIAR system as part of an expansion exercise inaugurated at ICW90), core funding would increase by \$1.5

million — \$22.5 million for 1992, up from \$21 million the previous year. Donors had pledged \$2.5 million for the new forestry entity in 1992.

Analyzing the financial situation, Mr. von der Osten pointed out that the pre-expansion centers would experience a decline in their budgets of some 4 percent in nominal terms, slightly more in real terms. The “expansion centers” would benefit from an increase of 7 percent in nominal terms.

A budgetary decline of some 8 percent — 4 percent nominal and an additional 4 percent for inflation — would clearly have an impact on the operation of the centers affected. This was the third year of a decline in real terms.

The McWilliam formula (approved at an earlier meeting by the Group) for adjusting a supply/demand mismatch would be applied to these 13 centers, he reported. The process of applying the formula was entrusted to an oversight committee whose chairman was Mr. Michel Petit, the World Bank representative. The committee had reviewed the situation and confirmed the appropriateness of applying the formula.

The 13 centers were well aware of the difficulties they faced, and were responding to these in a responsible and professional manner: scaling down programs and freezing positions.

Growth in the CGIAR was channelled by donors to the “expansion centers” and to the proposed forestry center. The system-wide drop in support despite positive indications from several donors was due to anticipated reductions by two donors, Finland and the IDB.

Mr. von der Osten thanked donors for their support, and their commitment to keep the system healthy. He offered special thanks to Mr. Derek Tribe, Executive Secretary of Australia’s Crawford Fund for International Agricultural Research, who had drawn the system’s attention to the principles which could guide consciousness raising about the CGIAR, and who had then put those principles into practice successfully.

FUTURE MEETINGS

The Group endorsed the Chairman’s acceptance of an invitation from Turkey to the CGIAR to hold its next mid-term meeting (1992) in that country. In response to an invitation from the U.S., the 1993 mid-term meeting will be held in Puerto Rico. The Group took note of an offer from India to host a future mid-term meeting.

The following schedule of future meetings was confirmed, subject to the proviso noted below:

- 1992 — Turkey, May 18-22; Washington, D.C., October 26-30.
- 1993 — Puerto Rico, May 24-28; Washington, D.C., October 25-29.
- 1994 — May 23-27 at a location to be determined; Washington, D.C., October 24-28.

In response to a suggestion from the delegate of the African Development Bank (AfDB), the CGIAR Secretariat will examine the practicality of shifting the dates of International Centers Week (customarily held in Washington, D.C.) to avoid a clash with AfDB meeting schedules.

OTHER BUSINESS

BIOTASK — Progress Report

The Group decided to extend the mandate of the CGIAR Task Force on Biotechnology (BIOTASK) for one more year, on the suggestion of its Chairman, Mr. Hans Wessels.

During that year, BIOTASK will serve primarily as a donor-consultative forum within the CGIAR for biotechnology-related issues. This would be in keeping with the responsibilities that have been undertaken by BIOTASK in its evolution as a CGIAR institution in the past two years.

BIOTASK will provide a focus for donor input into the current formulation of CGIAR policies on intellectual property rights, biosafety and biodiversity. In doing so, BIOTASK will work in consultation with CGIAR centers and others in the CGIAR system.

Mr. Wessels reported to the Group on the recently concluded sixth meeting of BIOTASK at which a retrospective on the activities of the Task Force was reviewed. He detailed the information sharing programs BIOTASK had sponsored, and outlined the relationship that was developing between BIOTASK and other focal points sharing compatible interests.

The Group commended BIOTASK for its efforts in an area whose importance would continue to grow for the CGIAR as a whole.

Center Communications with Donors

The Group received a report developed by Mr. Eugene Terry, Director General, WARDA, on behalf of CGIAR center directors, entitled “Improving the Quality of Communications Between Donors and Centers in the CGIAR.” The purpose of the report was to initiate a process that would lead to a “better understanding of the changing circumstances under which centers and donors operate as they attempt to play their respective roles in the development process.”

CGIAR Linkages with UNCED

Mr. von der Osten presented a progress report setting out the rationale for and the strategy followed to integrate the CGIAR more closely with the UNCED process.

He reported that in response to the views of CGIAR members expressed at the Paris mid-term meeting (May 1991), both the CGIAR as a “corporate entity” and IBPGR had been formally recognized as observers in the intergovernmental category at UNCED. The CGIAR and IBPGR were represented at the third preparatory committee

meeting of UNCED, and would be represented at the fourth such meeting to be held at New York in April 1992, and at UNCED itself at Rio in June 1992.

The report pointed out that the main role of the CGIAR in contributing and possibly participating in post-UNCED work programs would be in three sectors:

- sustainable agriculture,
- the conservation and use of plant genetic resources, and
- capacity building.

Mr. von der Osten summarized the highlights of the UNCED-related programs under each of these headings in which the CGIAR was participating, and outlined the public awareness activities undertaken by the CGIAR in connection with UNCED.

The CGIAR had been proposed as a possible institutional home for a global initiative on plant genetic resources involving efforts at international, regional, national and community levels. The proposal, which emerged from the final plenary session of the Keystone International Dialogue Series on Plant Genetic Resources held at Oslo in June 1991, was introduced into the UNCED process by the Government of Norway. ICW91 took note of this proposal and recommended that due consideration be given to it at UNCED.

The Group endorsed the various steps taken as well as planned, and urged that these activities should be integrated with the negotiating process now underway at UNEP and elsewhere for the formulation of international covenants that would guide post-UNCED work programs. Members of the Group stressed the need for renewed efforts to involve agricultural expertise in the UNCED-related planning of member governments.

Intellectual Property Rights

The Group received a draft paper from center directors outlining basic principles on plant genetic resources, intellectual property rights and biosafety. The initiative taken by center directors, supported by others in the system, to deal with these issues was welcomed. The formulation of a CGIAR position on these issues was considered important, given the worldwide attention they had attracted. Moreover, these issues would be raised at the negotiating sessions leading to the preparation of international covenants for

UNCED, and it would be helpful if the views of the CGIAR could be clarified.

After considerable discussion, the Group decided that the draft should be further discussed in the home capitals of delegates, and the results of those discussions conveyed to the CGIAR Secretariat.

TAC Members

Certificates of appreciation were given to Mr. James Ryan, Mr. Abdoulaye Sawadogo, Mr. Gian Tommaso Scarascia Mugnozza and Mr. Cornelis T. de Wit who were ending their service with TAC.

CHAIRMAN'S CLOSING REMARKS

In a brief closing statement, Mr. Thalwitz thanked members of the CGIAR and its components for the support he had received during his relatively brief tenure as Chairman.

He particularly thanked Mr. McCalla without whose collaboration it would not have been possible to move through the system's intense and somewhat hectic agenda of the past two years. He thanked cosponsors for their contribution toward the successes of the past two years. Mr. von der Osten and his colleagues had contributed in a special way to maintain the continuity and effectiveness of the system.

The centers, their boards, directors general and staff had upheld their end of the system's responsibilities with professionalism and skill. The members of the Group itself had made his life somewhat easier through their cooperation and their consistent efforts to work toward consensus on issues crucial to the world's developing regions.

At ICW91 he sensed a strong feeling among all sections of the CGIAR system for working toward the redefinition of a system-wide strategy. Some components of the system were already exploring this issue. There appeared to be a consensus that a synthesizing exercise by a small group could move the process along. The responsibility for initiating and guiding this exercise would fall on his successor.

He urged them all to work with Mr. Rajagopalan as cordially and as constructively as they had worked with him.

At the final session of ICW91, Mr. Thalwitz passed on the Chairman's gavel to Mr. Rajagopalan who brought the meeting to a close at 4:15 pm on Friday, November 1.

Annex 1

Agenda

<i>Agenda Number¹</i>	<i>Item</i>
1	Chairman's Opening Remarks
2	Adoption of the Agenda
3	TAC Chairman's Report
4	Report of Committee of Board Chairpersons
5	Report of Committee of Center Directors
6	Review of CGIAR Priorities and Strategies
7	Forestry — Progress in Establishing ISREF — ICRAF/ISREF Strategy and Linkages
8	Biennial Center Presentations: CIMMYT, CIP, ICARDA, ICRAF, IITA, ILCA, IRRI, ISNAR, WARDA
9	Approval of 1992 Programs
10	Pledging/Pledging Results
11	Future Meetings
12	Other Business (BIOTASK, UNCED, Intellectual Property Rights, Communications Between Centers and Donors, TAC Members)
13	Closing

¹Not necessarily in order of discussion

Annex 2

List of Participants

Chairman

Wilfried P. Thalwitz
Senior Vice President
International Bank for
Reconstruction and Development

DELEGATIONS OF MEMBERS OF THE CONSULTATIVE GROUP

African Development Bank (AfDB)

C.R. Spencer
Chief of Division, Agricultural
Development and Food Crops (SARD)
South Region

Arab Fund for Economic and Social Development

Ismail T. El Zabri
Director, Technical Department

Mervat El Badawi
Senior Adviser

Asian Development Bank (ADB)

Eiji Kobayashi
Deputy Director, Agricultural Department

Australia

George H. L. Rothschild
Director
Australian Centre for
International Agricultural Research (ACIAR)

William S. Brown
Assistant Director
Development Research
Australian International
Development Assistance Bureau (AIDAB)

D. Ian Bevege
Principal Adviser
ACIAR

John R. Palmer
Consultant
ACIAR

Austria

Ralph F. Gretzmacher
Head of Department
University of Agriculture

Walter Rill
Alternate Executive Director for Austria
The World Bank Group

Belgium

Dany Ghekiere
Head, Multilateral Service
Ministry of Foreign Affairs,
Trade and Development Cooperation
Belgian Administration for
Development Cooperation (BADC)

Luc Sas
CGIAR Officer
BADC

Canada

Danielle Wetherup
Vice President
Canadian International
Development Agency (CIDA)

E. K. Langtry
Director General
CIDA

Iain C. Macgillivray
Senior Programme Officer
CIDA

Jim Cayford
Senior Forestry Adviser
CIDA

Scott Wade
Section Head, Francophone,
Commonwealth and Natural Resources
CIDA

Wayne J. Primeau
CIDA

Denmark

Klaus Winkel
Head of Department
Danish International Development
Agency (DANIDA)

Commission of the European Communities (EEC)

Gunter Gruner
Head of Division
Directorate-General Development

Timothy J. Hall
Coordinator, Tropical Agriculture
Science and Technology for
Development Programme

**Food and Agriculture Organization of
the United Nations (FAO)**

Philippe J. Mahler
Special Adviser to the Director
General and Assistant Director
General for Environment and
Sustainable Development

Mohamed S. Zehni
Director
Research and Technology
Development Division

Berndt Muller-Hayc
Chief, Research Development
Center

Francis S. P. Ng
Chief, Forest Research
Education Training Branch

Ford Foundation

E. Walter Coward, Jr.
Director, Rural Poverty and
Resource Program (RPRP)

Cheryl D. Danley
Assistant Program Officer, RPRP

France

Remy Pochat
Head of Research for Development
Division
Ministry of Research and
Technology

Genevieve Chedeville-Murray
Head of Multilateral Division
Ministry of Foreign Affairs

Danielle Barret
Adviser
Ministry of Cooperation

Anne Cau-Reocreux
External Division
Ministry of Agriculture

Eric Verkant
Executive Secretary
International Agricultural
Research Commission
Ministry of Research and Technology

Marie de Lattre
Manager for International
Organizations
Centre de Cooperation
Internationale en Recherche
Agronomique pour le Developpement
(CIRAD)

Andree Sontot
Director of International
Relations
Institut National de la Recherche
Agronomique (INRA)

Georges Tacher
Director IEMVT

Francois Vicariot
Delegate for International
Affairs
Institut Francais de Recherche
Scientifique pour le
Developpement en Cooperation
(ORSTOM)

Germany

Wilhelm Suden
Head of Division
Federal Ministry for Economic
Cooperation (BMZ)

Jurgen Friedrichsen
Division Head
German Agency for Technical
Cooperation (GTZ)

Erhard Kruesken
Director
German Foundation for
International Development (DSE)

Stefan Oswald
Assistant Head of Division
BMZ

Barbara Becker
Liaison Officer to CGIAR
German Council for Tropical and
Subtropical Agricultural Research
(ATSAF)

India

R. C. Kapila
Secretary
Department of Agricultural
Research and Education
(DARE)

**Inter-American Development Bank
(IDB)**

Lucio G. Reca
Manager, Project Analysis
Department

Helio Tollini
Chief, Agriculture Division

Ruben G. Echeverria
Economist

**International Bank for
Reconstruction and Development
(IBRD)**

Michel J. Petit
Director
Agriculture and Rural Development
Department (AGR)

Anthony J. Pritchard
Agriculture Research Adviser
AGR

J. P. Srivastava
Senior Agriculturalist
AGR

Gabrielle J. Persley
Biotechnologist
AGR
Secretary, BIOTASK

**International Development Research
Centre (IDRC)**

Greg Spendjian
Deputy Director
Agriculture, Food and Nutrition
Sciences (AFNS)

Brian Belcher
Research Officer, AFNS

Karen Spierkel

Antoine Hawara
Treasurer

N. Mateo
Associate Director, Crop
Production Systems

**International Fund for Agriculture
and Development (IFAD)**

Abbas Kesseba
Director, Technical Division

Ireland

Hugh Swift
Head of Bilateral Aid Programme
Department of Foreign Affairs

Italy

Annamaria Bruno
Desk Officer (Multilateral Desk)
Directorate General for
Development Cooperation
Ministry of Foreign Affairs

Japan

Nobuyuki Sugimoto
Director, Multilateral
Cooperation Division
Ministry of Foreign Affairs

Shinzo Adachi
Assistant Director
Multilateral Cooperation Division
Ministry of Foreign Affairs

Shinya Tsuru
Director General
Tropical Agricultural Research
Center (TARC)

Motoi Kodaira
Deputy Director
International Cooperation Division
Ministry of Agriculture, Forestry
and Fisheries

Satoluko Sasohi

Korea

Yong Hwa Shin
Director General
International Technical
Cooperation Center
Rural Development Administration

Mexico

Ernesto Samayoa Armienta
Vocal Ejecutivo
Instituto Nacional de
Investigaciones Forestales y
Agropecuarias (INIFAP-SARH)

Netherlands

R. D. van den Berg
Head, Research Programme
Ministry of Foreign Affairs

Hans Wessels
Head, Biotechnology Programme
Ministry of Foreign Affairs

Willem van Vuure
Senior Scientific Officer for
International Relations
Ministry of Agriculture

Nigeria

Oladeji A. Odegbare
Acting Director
Agricultural Sciences Department
Federal Ministry of Science and
Technology

Norway

Birgit Schjerven
Head of Division
Multilateral Department of
Development Cooperation
Ministry of Foreign Affairs

Stein W. Bie
Director
Norwegian Center for
International Agricultural
Development (NORAGRIC)

Margaret Slettevold
Senior Executive Officer
Multilateral Department of
Development Cooperation
Ministry of Foreign Affairs

Tertit von Hanno Aasland
Head of Division
Research Unit
Ministry of Foreign Affairs

Philippines

Manuel M. Lantin
Assistant Secretary
Department of Agriculture

Ruben J. Pascual
Agricultural Attache
Embassy of the Philippines

Rockefeller Foundation

Robert W. Herdt
Director
Division for Agricultural
Sciences

Roy A. Steiner
Warren Weaver Fellow

Spain

Francisco Javier Garcia Ramos
Agriculture Department
Head, External Relations Service
Instituto Nacional de
Investigaciones Agrarias (INIA)

Sweden

Bo Bengtsson
Director General
Swedish Agency for Research
Cooperation with Developing
Countries (SAREC)

Carl-Gustaf Thornstrom
Senior Research Officer, SAREC

Switzerland

Rolf Wilhelm
Deputy Director
Swiss Development Cooperation and
Humanitarian Aid
Federal Political Department

Paul Egger
Head, Agricultural Service
Swiss Development Cooperation

United Kingdom

Andrew J. Bennett
Chief Natural Resources Adviser
Natural Resources and Environment
Department (NRED)
Overseas Development
Administration (ODA)

John C. Davies
Deputy Chief, Natural Resources
Adviser, NRED
ODA

J. B. Warren
Senior Natural Resources Adviser
British Development Division in
the Caribbean
ODA

J. Perfect
Head of Pest Management Division
Natural Resources Institute
ODA

Mair Townsend
Higher Executive Officer
Research Section, NRED
ODA

M. J. Iles
Secretary
IPM Working Group
Natural Resources Institute

**United Nations Development Programme
(UNDP)**

Timothy S. Rothermel
Director
Division for Global and
Interregional Projects

Alva A. App
Senior Scientific Adviser

K. N. Satyapal
Senior Adviser

Philip S. Reynolds
Senior Program Officer

Nyle C. Brady
Senior Consultant

**United Nations Environment Programme
(UNEP)**

Reuben J. Olembo
Deputy Assistant Executive Director

M. Pylala

R. Khanna

United States

Richard E. Bissell
Assistant Administrator
Bureau for Research and
Development
Agency for International
Development (AID)

Hans P. Peterson
Director, Office of Agriculture
Bureau for Research and
Development, AID

Twig Johnson
Director (Acting), Office of
Forestry, Environment and Natural
Resources
Bureau for Research and
Development, AID

Ralph W. Cummings, Jr.
Coordinator, IARC Staff
Bureau for Research and
Development, AID

Dana G. Dalrymple
Research Adviser, IARC Staff
Bureau for Research and
Development, AID

Robert B. Bertram
Research Officer, IARC Staff
Bureau for Research and
Development, AID

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Director, Regional Sugarcane
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Joint Secretary
Department of Agricultural
Research and Education (DARE)
India

Tupuola Tavita
Director of Agriculture
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Augustyn Wos
Institute of Agricultural and
Food Economics
Poland

Representing Latin America and the Caribbean (Brazil and Trinidad and Tobago)

Manoel Malheiros-Tourinho
Executive Director
Empresa Brasileira de Pesquisa
Agropecuaria (EMBRAPA)
Brasilia, Brazil

Mario Alves Seixas
Head of International Affairs,
EMBRAPA

Thomas W. A. Carr
Director of Research
CARONI (1975) Ltd.
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Representing Near East and North Africa (Jordan and Tunisia)

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Leader, Farm Resource Management
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Post Doctoral Fellow

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International Cooperation Program

Hans Herren
Biological Control Programme
Benin Research Station

Stephen M. A. Lawani
Director, Information Services

John Thackway

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Hank Fitzhugh
Deputy Director General
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Trypanotolerance Thrust
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Deputy Director General, Finance
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Head, LCPU

Gurdev S. Khush
Principal Plant Breeder and Head
Division of Plant Breeding,
Genetics and Biochemistry

Glenn Denning
MC/MPA Program

Sant Singh Virmani

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Program Leader

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Cambridge, United Kingdom

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Berkeley, California

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New Delhi, India

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Wageningen, Netherlands

Raoul Dudal
Leuven, Belgium

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St. Paul, Minnesota

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Tokyo, Japan

Mitsuma Matsui
Tokyo, Japan

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Islamabad, Pakistan

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Abidjan, Cote d'Ivoire

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Bobo-Dioulasso, Burkina Faso

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Guido Gryseels
Senior Agricultural Research Officer

Amir Kassam
Senior Agricultural Research Officer

CGIAR SECRETARIAT

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Executive Secretary

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Director General

C.A.B. International (CABI)

Dennis J. Greenland
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Colin P. Ogbourne
Director, Information Services

Peter R. Scott
Crop Protection and Genetics

Jeffrey K. Waage
Department Director
International Institute of
Biological Control

Caribbean Agricultural Research and Development Institute (CARDI)

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Deputy Chairman

Calixte George
Executive Director

St. Clair Forde
Deputy Executive Director

Hugh Saul
Deputy Executive Director,
Development

John Pino
Consultant

Centro Agronomico Tropical de Investigacion y Ensenanza (CATIE)

Rodrigo Tarte-Ponce
Director General

Oscar Fonseca
Deputy Director General

Jose G. Flores
Program Director

Victor M. Villalobos
Director, Program I

Rafael Celis
Program Director

International Board for Soil Research and Management (IBSRAM)

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Chairman Elect

Marc Latham
Director General

Chaline Niamskul
Administrative Officer

Donal O'Hare
Consultant

International Centre of Insect Physiology and Ecology (ICIPE)

William T. Mashler
Chairman

Peter Esbjerg
ICIPE Governing Council

Jack W. Meagher
ICIPE Governing Council

Constantina Safilios-Rothschild
Member, Executive Board

Thomas R. Odhiambo
Director

Kundam Seshu-Reddy
Section Head

R. A. Odingo
Chief, Planning Officer

Leonard Otieno
Programme Leader

Victor Rabinowitch
Vice President for Programs

Grace M. A. Ochola

Sam Engelstad
Consultant

M. Yudelman
Chairman, Friends of ICIPE

**International Center for Living
Aquatic Resources Management
(ICLARM)**

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Chairman

Martin Bilio
Board Member

E. A. Huisman
Board Member

Zimani Kadzimira
Board Member

Kenneth MacKay
Director General

Basilio M. Rodriguez, Jr.
Director, Administration and
Finance

Jay L. MacLean
Director Information

**International Fertilizer Development
Center (IFDC)**

W. David Hopper
Chairman

Bukar Shaib
Board Member

Paul J. Stangel
President and Chief Executive
Officer

Amit H. Roy
Executive Vice President and
Chief Operating Officer

Samuel C. Muchena
Managing Director
African Centre for Fertilizer
Development

M. Terry Frederick
Development Officer

Marie K. Thompson
Public Relations Officer

**Instituto Interamericano de
Cooperacion para la Agricultura
(IICA)**

L. Harlan Davis
Deputy Director General

**International Trypanotolerance
Center (ITC)**

G. M. Urquhart
Director General

Bakary N. Touray
Deputy Director General

Hugh A. Hanley
Director, Finance and
Administration

**International Union of Forestry
Research (IUFRO)**

Lorne F. Riley
Coordinator, IUFRO/SPDC

Winrock International

Dilbagh S. Athwal
Senior Vice President

Ned S. Raun
Regional Representative,
Washington

Pierre Ph. Antoine
Regional Director, Africa and the
Middle East

OBSERVERS

Manuel T. Barradas
Vice President
Instituto Nacional de
Investigacao Agraria, Portugal

Arlette Conzemius
Counselor
Embassy of Luxembourg

Yoseph O. Elkana
Israel

Georg Lindsey
Director, CGNET

Heidi Marinaccio
International Fund for
Agricultural Research (IFAR)

John J. McKelvey
IFAR

Michael Monaghan
United Nations Conference on
Environment and Development
(UNCED)

OTHER PARTICIPANTS

Robert O. Blake
Chairman, U.S. Committee on
Sustainable Agriculture for
Developing Countries

Gaston Grenier
Director General
Institut International de
Recherche Scientific pour le
Developpement en Afrique (IIRSDA)

James Johnston
Rockefeller Foundation (retired)

Auguste Kouassi
Board Member

Michael Lesnick
Senior Vice President, Keystone
Center

Peter Pee
Special Program for African
Agricultural Research (SPAAR)

Wolfgang Siebeck
CGIAR Consultant

Michael S. Strauss
National Research Council

Jaan Tear
International Foundation for
Science (IFS)
Sweden

M. Toure
SPAAR

Floyd J. Williams
IFAR

