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

Report of the Synthesis Group
BACKGROUND DOCUMENTS

Volume 3 of 4

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

CBC/CDC Draft Document

Note to the Reader

The document hereto attached reflects the collective thinking of the members of the CBC and CDC who met jointly for two days in The Hague on September 2-3, 2000.

Considerable progress was made at the retreat with regard to agreeing on a number of concepts, such as objectives of changes, principles of changes, a federation model for Centers, modes of inter-center collaboration, and basic principles of codes of conduct and practices for inter-center collaboration.

However, the attached document should be seen as "work in progress" as some of the concepts have not yet been crystallized by the CBC/CDC, and their implications not fully explored during the short retreat. This explains that in a few cases parts of the document may not yet be fully consistent. The CBC/CDC intends to work further on these aspects, among others at the opportunity a full day joint meeting prior to ICW00.

The distribution of the document at this stage is intended to feed into the reflection of others, including the CGIAR Chair, TAC, and the Synthesis Group.

**REPORT OF THE CBC/CDC RETREAT
THE HAGUE, 2-3 September 2000
TOWARDS A FEDERATION OF CENTERS**

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EXECUTIVE SUMMARY

At MTM 2000, the CGIAR decided to tackle the systems organization, structure and management issues with a view of ensuring an optimal implementation of its new vision, mission and strategies. As part of its contribution the CBC/CDC met in Retreat on 2-3 September 2000 at ISNAR in The Hague. This report contains the outcomes of that Retreat. In preparation for the Retreat, background documents were developed to help the center Board Chairs and Directors General to analyze the issues and options.

With respect to the motives for organizational change, the CBC/CDC recognized the continuing and future changes in the demand for international agricultural research, the opportunities through new science and partnerships and other changes in the environment in which the Centers operate now and in the future. Moreover, the CBC/CDC is convinced that there are significant changes to be made within the Centers and within the system to improve efficiency and effectiveness.

The CBC/CDC reached consensus on a set of objectives towards which any organizational, structural and management change should be geared. These included three over-arching objectives¹ and 10 at the more operational level of inter-center and partner collaboration².

The CBC and CDC considered and endorsed nine basic principles -- which are elaborated upon in the body of the text -- that should underpin change at the Center and System level, namely:

1. The CGIAR is a system, not an institution.
2. A well functioning system is self-renewing.
3. There is a need for responsible, professional, and accountable decision-making.

¹ They are: (a) independent Centers operate together within an explicit system framework in which the whole is larger than the sum of the units, thus achieving a critical mass at the system level to tackle complex issues; (b) the public good character of the products of cutting-edge research and related activities of the Centers be preserved; and (c) following the shift set by TAC in the CGIAR research paradigm from commodity to people, the global capacity of the Centers should be enhanced to operate more closely with partners, capitalizing on comparative advantage and synergies, including with those responsible for delivering public goods to the poor people.

² They are: (a) improve the effectiveness and efficiency of inter-center collaboration through using: (1) a logical and transparent mechanism to select, fund, and manage system-wide and multi-center programs, (2) improved and inclusive mechanisms for priority setting and programming, particularly at the regional level, and (3) providing incentives for inter-center collaboration thereby reducing duplication and excessive competition among Centers; (b) increase the flexibility and adaptability of both the Centers and the system to external developments; (c) improve the quality and effectiveness of Centers' collective research partnerships outside the system; (d) improve the collective capacity of the Centers to manage intellectual property; (e) enhance Centers' capacity to attract and retain the brightest minds and best partners in carrying out their mission; (f) provide the CGIAR a concurring, respected, sought after and effective voice on behalf of its mission in the scientific, development, environment and other related arenas; (g) improve the public projection and image of the CGIAR system; (h) attract more and more reliable funding for core activities of the CGIAR system; (i) improve the efficiency, transparency and effectiveness of Centers' business systems; and (j) enhance the level of current centrally provided services, and investigate and develop new areas of services best provided centrally or through collective outsourcing on cost-effectiveness grounds.

4. A system based on the principle of pluralism calls for open consultation and participation.
5. To enhance a system, a reachable enhancement objective needs to be identified, and only then should the most efficient single instrument for achieving that objective be sought.
6. Decentralization and devolution with accountability.
7. The size of an organization is limited by the level of relative transaction costs.
8. Marketization of public goods.
9. The principle of revealed preferences

Based on these objectives and principles and after a thorough analysis and discussion of various approaches and models for achieving the objectives³, the Board Chairs and Center Directors recommend the creation of a Federation of Centers, as a legal entity, that would be comprised of Centers, a Federation Office with a Board for the Federation and a small support staff.

The Board Chairs and DGs strongly believe that the proposed Federation of Centers would create the opportunity for the Centers supported by the CGIAR to function fully as system of interrelated units, not a loose coalition of independent Centers. In so doing, it would catalyze enhanced performance within the context of its vision and strategy. The Board Chairs and DGs also believe that the creation of the Federation should occur through a devolution of certain powers from the Centers to the Federation and the addition of critical coordinating mechanisms through the Federation Office.

The Board Chairs and DGs believe that, although this is a Federation of Centers, the Federation could also make the work of other parts of CG System more efficient and effective.⁴ The Board Chairs and DGs also believe that the proposed Federation model will allow for evolutionary and adaptive change. While the Board Chairs and DGs believe that the Federation should initially be open to the 16 Centers supported by the CGIAR, there was an agreement that the Federation could be comprised of more than or less than 16 Centers in the future, including new centers formed by mergers and realignments of the present 16 centers. In view of how the Federation of Centers develops, the CG System may wish to consider streamlining other organs of the System.

During their Retreat, the Board Chairs and DGs made significant progress in identifying many of these details. Following their Retreat, the Board Chairs and DGs will engage Center Boards, Center staff, CG donors, other components of the CG System, and stakeholders in a discussion regarding these details.

Federation functions will include strategic planning and science quality enhancement, intellectual property, resource mobilization, public awareness, science advocacy, systemwide promotion of science coordination and the provision of services to centers, donors and the CGAIR Chair in particular. At this stage of developing its ideas on the Board of the Federation, the Board Chairs and DGs believe that the Board of the Federation should be comprised of eminent individuals that are selected and appointed

³ Please see the attached Background document, "Diagnosis of the Motivations for Change: Objectives of Change; System Structure; Governance and Management."

⁴ In this description, the term "Federation" or "Federation of Centers" should be interpreted to mean the 16 International Agricultural Research Centers, the Federation Office with a Board and small administrative unit. The term "CG System" refers to the overall collection of actors in the CG system including co-sponsors, CG Chair, members, Centers, CG Secretariat, TAC, and donors. The term "Centers" refers to the International Agricultural Research Centers that are currently part of the CG system.

by Centers and donors, through a nominating committee, and act in the best interest of the Centers. The Federation Office will be funded by the Centers, and by donors who wish to do so. The Board of the Federation would be required to report annually to a full meeting of the CBC and CDC, as well as to CGIAR plenary meetings.

Since the early years of the CGIAR, centers have worked together on a wide range of issues and in all regions of the world. Despite this, no formal or written codes of conduct at the CGIAR system level had yet been developed to harmonize or codify the processes amongst the participating center partners. The Retreat therefore agreed to make inter-center collaboration and collaboration with a wide range of other partners the centerpiece of our future ways of working.

Stronger collaboration can have a direct and positive impact on the efficiency and effectiveness with which centers work together and with their partners to develop priorities, mobilize and allocate resources, conduct and monitor research, communicate information and knowledge, and transfer technologies. A wide range of examples of models for inter-center collaboration was discussed, from full system-wide programs to center-center projects.

A draft Code of Conduct for collaboration was developed. It will now go to wide consultation among center staff and center Boards as well as through dialogue with CGIAR partners.

Besides a draft Code of Conduct and a draft Code of Practice for inter-center collaboration and with a view on expediting collaborations, the Retreat drew up a Plan of Preliminary Actions for Inter-Center Collaboration. This draft Plan, the details of which will be further developed just before ICW2000, commits the CGIAR centers to speeding up the most critical collaboration actions, namely programmatic integration at the regional and sub-regional levels and harmonization and codification of administrative cooperation to achieve greater operational efficiency and effectiveness.

In an era of heightened attention to intellectual property rights, their creation, ownership, use and protection, the CGIAR centers recognize that they need to increase the effectiveness of the management of IP within the system. The consequences of the creation of a Federation Office on IP management was discussed. Because of the diversity of IP products and the location of the CGIAR Centers, it was agreed that the Centers should continue to retain ownership of their IP, but that certain aspects of the management could be done by the Federation Office. Since the Federation Office will be a legal entity, it will also have the opportunity and capacity to negotiate for system-wide agreements and receive and manage revenues from Center-owned IP that was sub-licensed to the Federation Office.

The Retreat also examined the implications of TAC's seven strategic planks for the work of the centers and considered their convergence with the centers' federation and collaboration proposals. The Retreat agreed that, broadly, there was strong convergence between the TAC 7 planks and the federation and collaboration models. However, the centers views diverged from those of TAC on some of the detail. The changes needed in implementing the 7 planks would have to go beyond the creation of the federation and down to the level of the centers' priorities and plans.

Finally, at its conclusion of the Retreat, the Center Board Chairs and Center Directors General agreed the overall next steps. They agreed to engage Center Boards, Center staff, CG donors, other components of the CG System, and stakeholders in consultations regarding the items included within this document, including:

- Provide this Working Draft Document to TAC for their consideration and comment.
- DGs discuss concepts during the 14 September 2000 conference call with Ian Johnson.
- Prior to ICW2000, DGs and Board Chairs to engage with as many CGIAR members as possible to introduce and explain the CDC/CBC position, giving particular priority to dialogue with developing country members and their views.
- Present the concepts within this document to the EAIRD meeting in Lisbon in early October.
- Engage with the Synthesis Group in discussions regarding the concepts and ideas included within this document.
- Meet in advance of ICW2000 in a full meeting of the CBC | CDC to deliberate further on these concepts taking into consideration the input from all individuals and entities consulted.
- Seek legal advice regarding legal issues associated with incorporation of the proposed Federation during the 4th quarter of 2000.
- Seek input and support from Center Boards during or prior to the 1st quarter of 2001 on the proposal coming out of the October 2000 CBC | CDC meeting. If possible, this should be accomplished in the first quarter of 2001.
- Incorporate the Federation in the 2nd quarter of 2001 (prior to MTM, if possible).
- Solicit nominations for Board membership in the 3rd quarter of 2001 and elect members.
- Convene the first meeting of the Federation Board in the 4th quarter of 2001.

PREAMBLE

In October 1998 the report of the 3RD CGIAR System Review, carried out under the leadership of Maurice Strong, was released. This led the CBC and CDC to review carefully the diagnosis and recommendations of the report and share their views and analysis with other partners in the CGIAR system directly at CGIAR meetings and through the Consultative Council, on which both were represented.

In October 1999, at the initiative of the then CGIAR Chair, the CGIAR tackled issues not addressed by the 1998 System Review Panel. These were the longer term vision and strategy of the CGIAR and the consequent optimal structural set up of the System, of the Centers in particular, to ensure an effective and efficient implementation of the vision and strategy.

The vision and strategy were developed under the leadership of TAC in close collaboration with other partners, the Centers in particular both bilaterally and collectively through CBC and CDC. This process resulted in the formulation of revised CGIAR vision and mission statements and of seven strategic “planks” which guide the centers’ research over the next decade. These were endorsed by the CGIAR at its Mid-Term Meeting in May 2000.

At MTM 2000, the CGIAR decided to proceed with the next step, i.e. tackling the structural issues with a view of ensuring an optimal implementation of the vision, mission and strategies. The Centers, through CBC and CDC, were called upon to formulate proposals, with particular attention on the enhancement and streamlining of inter-center collaboration as a mode to implement the strategies. At MTM 2000 CBC and CDC met on several occasions among themselves as well as with other stakeholders⁵, thus setting the path for a highly participatory and consultative process. The CBC and CDC also released a short paper explaining the rationale behind their approaches to be taken. Considering the complexity of the issue at hand, the CBC and CDC decided at MTM 2000 to meet for two full days to reflect on the issues and start drawing up concrete proposals. From the outset, the CBC and CDC decided to share the outcome of their meeting with TAC, provide it to the Synthesis Group set up by the Oversight Committee, and eventually the CGIAR at ICW2000.

In preparation for the September 2000 Retreat, background documents were developed both from within the CBC/CDC and with outside assistance. These analyzed the issues and options and helped CBC and CDC members crystallize their thinking on issues at hand.

At the joint CBC/CDC Retreat, a consensus emerged rapidly on the existence of various motives for change independently of the nature and form of changes to come.

Some motives are external to the CGIAR, such as the rapid changes occurring in the environment in which it operates and forcing continuing adjustment of the CGIAR to remain relevant through being fully integrated in that environment. Among these are scientific and technological developments affecting both what and how CGIAR research is being done. Also financial developments such as declining (ODA) public funding – in part due to the relative loss of importance given to agriculture in the development arena -- on which the CGIAR has traditionally been relying upon has affected the System. The latter combined with the increasing rate of tied funds versus unrestricted has affected directly Centers research management both by limiting the

⁵ The CGIAR Chair, TAC, the Oversight Committee, the Finance Committee, donor member representatives, etc.

flexibility of management to deploy resources and a lesser role for system program setting processes as donors, individually rather than through the CGIAR approved program, have greater influence on individual Centers research programs and projects.

Other motives for change come from within the environment in which the centers operate. Among these are the expectations from and the changing organization of NARS – the centers' chief partners -- to have a greater say in the setting and implementation of the CGIAR and Centers' research agenda, thus calling for enhanced participatory modes of operations from the planning to the delivery stage.

Among the motives internal to the CGIAR are developments such as concerns that the System and the Centers are not well equipped to deal with complex issues. Among these are the management of a complex array of systemwide programs, intellectual property and its management, the perceived difficulty to reconcile genetic resources management and integrated natural resource management, and the competitive interaction among Centers in the area of resource mobilization. The CGIAR centers' partnerships have been growing rapidly in number and diversity over the last decade.

OBJECTIVES OF CHANGE

The CBC/CDC reached consensus on a set of objectives towards which any organizational, structural and management change should be geared.

The CBC and CDC considered that some over-arching objectives to be achieved by change should be that:

- (a) independent Centers operate together within an explicit system framework in which the whole is larger than the sum of the units, thus achieving a critical mass at the system level to tackle complex issues;
- (b) the international public good character of the products of cutting-edge research and related activities of the Centers be preserved; and
- (c) following the shift set by TAC in the CGIAR research paradigm from commodity to people, the global capacity of the Centers should be enhanced to operate more closely with partners, capitalizing on comparative advantage and synergies, including with those responsible for delivering public goods to the poor people.

At a more operational level of inter-center collaboration, the CBC and CDC reached consensus on a number of objectives for change as follows:

- (a) improve the effectiveness and efficiency of inter-center collaboration through using:
 - (1) a logical and transparent mechanism to select, fund, and manage system-wide and multi-center programs;
 - (2) improved and inclusive mechanisms for priority setting and programming, particularly at the regional level;
 - (3) providing incentives for inter-center collaboration thereby reducing duplication and excessive competition among Centers;
- (b) increase the flexibility and adaptability of both the Centers and the system to external developments;

- (c) improve the quality and effectiveness of Centers' collective research partnerships outside the system;
- (d) improve the collective capacity of the Centers to manage intellectual property;
- (e) enhance Centers' capacity to attract and retain the brightest minds and best partners in carrying out their mission;
- (f) provide the CGIAR a concurring, respected, sought after and effective voice on behalf of its mission in the scientific, development, environment and other related arenas;
- (g) improve the public projection and image of the CGIAR system;
- (h) attract more and more reliable funding for core activities of the CGIAR system;
- (i) improve the efficiency, transparency and effectiveness of Centers' business systems;
- (j) enhance the level of current centrally provided services, and investigate and develop new areas of services best provided centrally or through collective outsourcing on cost-effectiveness grounds.

PRINCIPLES UNDERPINNING CHANGE

The CBC and CDC considered and endorsed nine basic principles that should underpin change at the Center and System level:

1. The CGIAR is a system, not an institution.
Consequently, the issue related to change is not that of structuring an institution, but rather that of seeking to catalyze performance of a system. It shows similarities with a symbiotic ecosystem, but it could also be looked at as an interactive market for agricultural research services with "buyers" and "sellers" assisted by a "clearing house" through which transactions are consummated.
2. A well functioning system is self-renewing.
Such a system evolves in a lively manner – though not necessarily optimally -- in response to changes in its operating environment. In the past the CGIAR, as a system, does not seem to have fully responded to these drivers of change, and in some cases went against them.
3. There is a need for responsible, professional, and accountable decision-making.
Experience demonstrates that decision-making by committees is not necessarily the most productive, particularly when committees are non-accountable, part-time, and ad hoc – which seem to be the case for committees composing the superstructure of the CGIAR.
4. A system based on the principle of pluralism calls for open consultation and participation
This requires a clear distinction between responsible executive decision-making and the consultative and participatory processes in support of the decision-making.
5. To enhance a system, reachable enhancement objective needs to be identified, and only then should the most efficient single instrument for achieving that objective be sought.
There is not one single instrument that can achieve predictably the enhancement of the performance of the system as a whole. A set of effective enhancement measures must be articulated first. Then an optimal institutional and governing system can be designed to implement the measures.

6. Decentralization and devolution with accountability.

Central planning has proved to be ineffective. Modern communications and information technology has empowered units of systems. Empowerment of its component parts -- by providing or facilitating access to information -- should be a powerful principle in enhancing the performance of a system such as the CGIAR. Key instruments of empowerment are policies, responsibility, resources and accountability.

7. The size of an organization is limited by the level of relative transaction costs.

Through info-tronics transaction costs tend to fall thus leading to downsizing of organizations and outsourcing. However, aggregation of decentralized entities can happen successfully if certain conditions are fulfilled:

- the entities are not hierarchically centralized;
- the entities vary widely in size, in geographic domain and across many cultures;
- the entities extend the domain of their mission by joining a "family";
- they lower the transaction costs of working together, over a wider domain, by operating with shared practices and standards.

8. Marketization of public goods.

Many goods, such as utilities or mail, have moved from being public goods to private goods, and the trend towards marketization is continuing. Even as goods remain public in nature, their production should be submitted to competitive processes/bidding. The concepts of public/private goods are relative as they differ according to levels of economic development, across research areas, and up-and-down the R&D continuum.

9. The principle of revealed preferences

Evaluation of goods and services in the private markets is done by customers in their decisions to buy or not to buy. The same dynamics are at work in agricultural research (including CGIAR) as research funders and managers determine priorities by revealing their preferences in choosing programs and activities they intend to fund. Enhancement of priority setting therefore calls first and foremost for ensuring that "buyers" and "sellers" are well-informed.

CONCEPTUAL MODEL FOR A FEDERATION OF CENTERS

As stated in the sections above, the Board Chairs and Center Directors identified and agreed on objectives for changes and developed a set of principles to guide their discussions. Based on these objectives and principles and after a thorough analysis and discussion of various approaches and models for achieving the objectives⁶, the Board Chairs and Center Directors recommend the creation of a Federation of Centers that would be comprised of Centers, a Federation Office with a Board and a small administrative staff.

The Board Chairs and DGs strongly believe that the proposed Federation of Centers would create the opportunity for the CGIAR Centers to function fully as system of interrelated units, not a loose coalition of independent Centers. In so doing, it would catalyze enhanced performance within the context of its vision and strategy. The Board Chairs and DGs also believe that the creation of the Federation should occur through a

⁶ Please see the attached Background document, "Diagnosis of the Motivations for Change: Objectives of Change; System Structure; Governance and Management."

devolution of certain powers from the Centers to the Federation and the addition of critical coordinating mechanisms through the Federation Office. As stated in more detail below, the Centers would devolve functions such as public awareness, resource mobilization and science advocacy at the Federation level and allocation for inter-Center and regional activities and high-level policy decision-making, including priority setting for inter-Center activities. Other examples are identified below.

The Board Chairs and DGs believe that, although it is a Federation of Centers, the Federation could also make the work of other parts of CG System more efficient and effective.⁷ The Board Chairs and DGs believe that the proposed Federation model will allow for evolutionary and adaptive change. While the Board Chairs and DGs believe that the Federation should initially be open to the 16 Centers supported by the CGIAR, there was an agreement that the Federation, given its adaptive and evolutionary nature, could be comprised of more than or less than 16 Centers in the future, including new centers formed by mergers and realignments of the present 16 centers. In the proposed Federation, Centers would remain independent legal entities. Partners and CG members will have a clear single contact point for matters such as: regional planning; Centers' policy; and position statements on global issues. In view of how the Federation of Centers develops, the CG System may wish to consider streamlining other organs of the System.

The Board Chairs and DGs unanimously agreed with the concept of a Federation model and began the difficult work of developing the details that would provide the form and function of the Federation. During their Retreat, the Board Chairs and DGs made significant progress in identifying many of these details. In the sections below, the details discussed and deliberated are outlined. Following their Retreat, the Board Chairs and DGs will engage Center Boards, Center staff, CG donors, other components of the CG System, and stakeholders in a discussion regarding these details.

Federation Functions

The Board Chairs and DGs discussed in detail the various functions that the Federation Board would undertake. Given the overall objective for the Federation of Centers to improve efficiency and effectiveness of inter-Center activities and to thereby enhance the overall functioning of the System, the Board Chairs and DGs believe that the Federation Board should undertake the following activities.

Strategic Planning and Science Quality Enhancement

- Developing and implementing the mechanism for strategic planning for the Federation of Centers including Federation priorities.
- Identifying, promoting, and brokering changes in structures at the Center and program level to enhance levels of performance (e.g., regional programs, Center-Center collaboration, mergers)
- Promoting Center-wide standards and behavior

⁷ In this description, the term "Federation" or "Federation of Centers" should be interpreted to mean the 16 International Agricultural Research Centers, the Federation Office with a Board and small administrative unit. The term "CG System" refers to the overall collection of actors in the CG system including co-sponsors, CG Chair, members, Centers, CG Secretariat, TAC, and donors. The term "Centers" refers to the International Agricultural Research Centers that are currently part of the CG system.

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- Monitoring Codes of Practice for Collaboration
 - Facilitating policy development at a Federation level (e.g., IP policies)
 - Facilitating the development and harmonization of Center policies
 - Establishing and implementing procedures for monitoring and evaluating the performance of Centers, including scientific performance

Resource Mobilization

To support its activities, the Federation would raise and allocate both public and private funds for the Federation. These fundraising and fund allocation issues would likely be primarily related to those activities related to inter-center activities and relationships. The Board Chairs and DGs discussed and wish to further explore mechanisms to provide incentives for using the Federation to increase amounts of unrestricted funds that could be used by the Federation to promote activities such as inter-center activities, Federation-wide strategic planning, and development of Federation-wide policies (e.g., IP).

Public Awareness

The Federation will work to promote public awareness of the mission of the CGIAR, the role of the Centers and their partners, and the impact of this work on eradicating poverty, malnutrition, and hunger. . The principal mechanism for public awareness and resource mobilization would be the current Future Harvest that will form part of the Federation Office.

Science Advocacy

The Federation will effect science advocacy for the mission of the CGIAR. It will be coupled with closer links to premier and peak science bodies at national and international level in the developing and developed world and a closer attention to the quality of science in the centers.

The Federation will also be active in major UN Conventions such as the UN Framework Convention on Climate Change (UNFCCC), the Convention on Biodiversity (CBD), and The Convention to Combat Desertification (CCD).

Federation Undertakings

The Federation will stimulate and ensure oversight of system-wide programs, catalyze Center-Center collaboration, and encourage program integration at the regional level. As appropriate, task forces and other forms of flexible research alliances may be created and implemented for specific purposes.

Provision of Common Services to Centers and Donors

The Federation would ensure provision of common services that Centers and members are willing to fund and which they believe can better be funded and delivered collectively, rather than Center-by-Center. Through this mechanism, the Federation hopes to consolidate centralized services, which may include some centralized services provided by the CG Secretariat, CAS, AIARC, and CGNET. These may include items such as:

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- IP services (e.g., acquisition, licensing, and advising)
 - The FAO/CGIAR Agreement
 - Human resources services
 - Conferences
 - ICT services
 - Support to the CGIAR Chair, CBC, and CDC

Board of the Federation

At this stage of developing its ideas on the Board of the Federation, the Board Chairs and DGs believe that the Board of the Federation should be comprised of eminent individuals that are selected and appointed by Centers and donors and act in the best interest of the Centers. The Federation Board should not be a representative board. Rather, Board member selection would be guided by criteria that are central to the mission of the Federation. Board members should be knowledgeable about the CGIAR and could be nominated by any individual or organization. The nominations would be forwarded to a nominating committee of Center representatives and donors who would develop a slate of candidates – based on the agreed upon criteria. This slate of candidates would be voted on by Centers and donors to the Federation Office. Board members would serve in their personal capacity. It is suggested that the Board be relatively small in size (e.g., 9-11 members) and that the Board Chair be elected by Board members.

Board Chairs and DGs believe that for the Federation to be credible, to ensure that significant advances in efficiency and effectiveness are made, and because of potential conflicts of interest that may exist if sitting DGs or Board Chairs were asked to allocate funding, the Board of the Federation should be not contain sitting Board Chairs or DGs. The Board of the Federation would be required to report annually to a full meeting of the CBC and CDC and at CGIAR plenaries.

CODE OF CONDUCT

Since the early years of the CGIAR, centers have worked together on a wide range of issues and in all regions of the world. The centers' work has been bound together by their common commitment to the mission of the CGIAR and by their common organizational form as international research centers. Center autonomy has been an important principle and strength as it enabled each center to develop the most appropriate approaches to address the diverse challenges presented by different mandate crops, commodities and resource systems in different geographic regions with different institutions. However, with the increasing complexity of the challenges of poverty eradication, the centers believe that greater progress can only be made when the full capacities of the centers and their partners are combined in creative, flexible and adaptive collaborations focused on addressing problems and issues underlying food insecurity and poverty. Inter-center collaboration will be the centerpiece of our future ways of working.

Stronger collaboration can have a direct and positive impact on the efficiency and effectiveness with which centers work together and with their partners to develop priorities, mobilize and allocate resources, conduct and monitor research, communicate information and knowledge, and transfer technologies.

Despite many fruitful past collaborations among centers, no formal or written codes of conduct at the CGIAR system level had yet been developed to harmonize or codify the processes amongst the participating partners. Many agreements, however, have been forged between and a few Centers for specific activities and even across all centers for some system-wide activities or inter-center working groups and some centers have developed broad partnership policies. The Centers, however, do share common policies and guidelines on Genetic Resources, Intellectual Property Rights and Biotechnology.

Attachment A – Code of Conduct – represents a work in progress. It was drafted by a team of center directors general and through discussion at the Retreat of the Center Directors Committee (CDC)/Committee of Board Chairs (CBC). The next stage of its development will be through wide consultation among center staff and center Boards as well as through dialogue with CGIAR partners.

EXAMPLES OF MODELS FOR INTER-CENTER COLLABORATION

In the early days of the establishment of the centers, the principal source of collaboration was between the center scientists and the scientists from stronger NARS. This has dramatically changed to the point that most of the CGIAR research now is done in a collaborative mode such as through the examples described below.

System-wide

Several system-wide programs have been established in the CGIAR. These formal multi center programs have been developed to address high priority research and/or service (e.g. the Gender and Diversity Program) areas that can benefit from scientists from different centers working together to plan priorities, develop funding proposals and contracting the research. The Alternatives to Slash and Burn is an example of a systemwide research program. Even though the system-wide Genetic Resource Program is not exactly a research program, it does demonstrate how centers working together can strengthen and expand the activities of individual centers. Highlights of this program include:

- Development of quality control measures for the CGIAR gene banks,
- Development of uniform Material Transfer Agreements (MTAs) for all genebank material under the auspices of the FAO Undertaking for Plant Genetic Resources.
- Development and implementation of a uniform data program called SINGER for gene bank accessions, and
- Harmonization of CGIAR policies and procedures for management of gene bank accessions.
- A common strategy for adaptation and mitigation of climate change's effects on food security, poverty and the natural resource base of agriculture.

Other examples of inter-center collaboration include the Inter-Center Working Groups on Climate Change and on Integrated Natural Resource Management, and the CDC Task Force on sub-Saharan Africa.

Multi Center Ecoregional Collaboration

There are several CGIAR multi center collaboration projects focused on ecoregional research. One example of this type of collaboration is the Rice–Wheat Consortium. The major partners in this consortium are CIMMYT, IRRI, IWMI, ICRISAT and the national research program of Bangladesh, India, Nepal, and Pakistan. This decade long program

has been highly effective in identifying and organizing priority research projects that address production constraints in the highly intensive rice-wheat cropping systems in the Indo-Gangetic Plains. Even though CIMMYT provides leadership for the Facilitation Unit, the majority membership of the steering committee and total researchers in the Consortium come from the NARS.

Co-location of Staff

It is common practice for CGIAR centers to co-locate outreach staff at the Head Quarters or outreach offices of other centers. It is estimated that well over hundred center staff are co-located in the offices of other centers.

Sometimes this co-location is associated with formal joint research programs such as those described above but in many cases the objectives are less formal and include economic and administrative efficiencies; logistical issues (e.g. transport, security, libraries) and opportunities for professional interaction between staff from each Center. The last is important for program stimulation and development and can also lead to natural development of collaboration in research and development.

Centers have codes of practice or policies that include conditions covering the co-location of staff.

Center-Center Collaboration

There are many examples of center-center collaboration under informal or formal organizational arrangements. These collaborations are based on joint programs of research and/or development usually on a regional or sub-regional basis. They can work from a few staff, to major commitment of resources from each center.

A good example of a formal center to center agreement is the 'CIMMYT-ICARDA Wheat Program for WANA'. This is based on a written agreement, revised from time to time, whereby CIMMYT locates its wheat breeders in the WANA region at ICARDA HQ in Syria and a joint ICARDA-CIMMYT office has been established in Turkey. The agreement identifies key objectives and the resources each center supplies to the Program. This agreement has resulted in an integrated, coordinated and collaborative approach to wheat improvement in the WANA region. Other examples of formal center-center agreements for collaboration include ICARDA and IPGRI working together in joint research projects.

Center-Center-NARS/Other 3rd Parties

In a number of cases the Centers work together and in collaboration with third parties (often a NARS). These are usually based on research programs on a regional, sub-regional or ecoregional basis, but occasionally for global programs.

Good examples of these types of arrangements include the following of a Center-Center-NARS at the (sub-regional) level. One example is the soil fertility initiative's work in East Africa led by ICRAF-KARI-NARO, that also includes the World Bank, FAO, TSBF, several local NGOs, community-based organizations and universities of the North.

Other examples are The Interspecific Rice Hybridization Project with WARDA, IRRI, CIAT; Cornell, IRD, YAAS, University of Tokyo, JIRCAS and 17 West and Central African countries, and The Inland Valley Consortium (IVC) in sub-Saharan Africa involving WARDA, IITA, ILRI, IWMI;

CIRAD, Wageningen, FAO, and 10 NARS of West Africa under multi-Center Ecoregional Collaboration.

Center-Center-NARS (regional)

One example is the CIP-led CONDESAN consortium working in the Andes.

ICRISAT, ILRI, IFDC, IITA and the Institute for Agricultural Research in Nigeria have since 1988 carried out farmers participatory research on best-bet approaches to cereal-cowpea-livestock sustainable production systems in the dry savanna in West Africa. The positive results achieved have led to the extension of the activities to other countries in the Sahelian zone under the Systemwide Livestock Program.

Center-Center-NARS (global)

The Turkey-CIMMYT-ICARDA Facultative and Winter Wheat Program includes a collaborative effort to produce wheat varieties for the developing world. The agreement identifies key objectives and the resources provided by each partner.

Other examples include the Inter-Center Working Group on Climate Change where ICRAF, CIMMYT, CIAT, ILRI, IRRI, ICARDA and others have developed a joint strategy and are working with the UNFCCC, IPCC and IGBP.

Center-Center projects

Each center has numerous examples of joint projects which combine complementary areas of expertise such as those involving ICLARM's aquatic science expertise and the agricultural expertise of IRRI (rice-fish systems in Bangladesh, Vietnam), IITA (forest margins agriculture and small scale fish farming) and IWMI (fish production and river flood regimes in the Mekong sub-region).

PLAN OF PRELIMINARY ACTIONS FOR INTER-CENTER COLLABORATION

The Retreat drew up a Plan of Preliminary Actions for Inter-Center Collaboration. This draft Plan, the details of which will be further developed just before ICW2000, commits the CGIAR centers to speeding up the most critical collaboration actions, namely programmatic integration at the regional and sub-regional levels and harmonization and codification of administrative cooperation to achieve greater operational efficiency and effectiveness.

Programmatic Integration particularly at the Regional Level

The CGIAR centers expect gains in their program effectiveness and relevance to partners and clients needs through inter-center collaboration and greater collaboration with many other partners. A consultative and participatory process will be necessary, including both Centers and partners such as SROs, NARS leaders, selected representatives of the NGO, private sector, and farming community, and donors. The purposes of this process would be to:

- Assemble an inventory of existing activities and technologies ready for dissemination, so that a shared awareness of the current situation can be created, identify gaps and develop synergies;
- Gain an understanding and buy-in on the concept of transitioning to this mode of closer cooperation among Centers and its consequences for existing partnerships and activities;
- Brainstorm opportunities and priorities with respect to the four rationale points above, and identify joint activities to be launched with emphasis on promotion and uptake; and
- Plan the next steps, e.g. working groups on particular themes, and/or other modalities.

Action The Centers commit to develop regional CGIAR programs for at least the following (sub-) regions before the end of the year 2001: West and Central Africa, Southern and Eastern Africa, South-Asia, West Asia and Northern Africa, Latin America and the Caribbean.

Administrative Cooperation

In an operating environment of greater competition for financial, human and infrastructure resources, the Centers are conscious that cost savings and greater efficiencies of resource use can be made by accelerating the processes already begun in harmonizing and sharing of some administrative functions and services. To this end, the table below shows a program of work for the centers to harmonize and codify cooperation in administrative services.

Action The Centers commit to harmonizing and codifying administrative cooperation among them as laid out in the following table.

Table. Harmonization and codification of administrative cooperation among centers

Issue	Current Situation	Desired Situation	Constraint/Disadvantage	Advantage	Commitment	Responsible Actor
1. Shared appointments	Bilateral Agreements	System level Standard Agreements	Each center spends time developing own models.	Lower Transaction costs	Model agreement by MTM 2001	CDC
2. Hosted offices	Bilateral Agreements	System level Standard Agreements	Each center spends time developing own models.	Lower Transaction costs	Model agreement by MTM 2001	CDC
3. Standards for work with NARS	Ad-hoc	Common approach / standards by (sub-)region, country.	Affects contract relations	Fair and clear treatment of NARS.	Standards by ICW 2001	CDC
4. HR policies for national staff	Individual centers	Harmonized by country or (sub-)region	Affects staff contracts	Fairness to staff	Agreement on principles ICW 2001	CDC
5. Indirect	Bilateral	System-wide	Lack of	Common	ICW 2000	CDC,

cost recovery		agreed formula	consistency and clarity on costs for donors. Projects often only partly funded.	approach to donors		CGIAR Secretariat-centers working group
6. Airticket purchase	By center	Group buying by country/sub-regional blocks as appropriate.	Centers not making best use of buying power.	Lower cost	MTM 2001	CDC + central body
7. ICT services – finance, accounting, auditing	Some shared services at high cost	Central ICT services as platform for central accounting, timewriting, budgeting, auditing, proj managmnt	High cost of establishmnt & resistance of current staff	Major efficiency improvement & lower LT costs	2-3 year project	Central Body with CDC
8. Public awareness	Future Harvest, PARC, PAA & Centers	Greater integration of Future Harvest, PARC and PAA into Federation Office, & linkage with Centers PA&RM staff	Insufficient-synergy as a separate bodies	Full integration	MTM 2001	CDC + central body
9. Group training / short courses	By center	Regional approach with NARS / SROs		Lower cost and higher impact	Established programmes by ICW 2001	Regional center groups
10. Resource mobilization	Mainly by center, some secretariat, starting with Future Harvest	More central body RM		Lower transaction cost, more time for research. Greater RM power by combining center and system level RM.	MTM 2001	Future Harvest, CDC + central body

MANAGEMENT OF INTELLECTUAL PROPERTY

In an era of heightened attention to intellectual property rights, their creation, ownership, use and protection, the CGIAR centers recognize that they need to increase the effectiveness of the management of IP within the system. This includes better management of Center-owned IP as well as increased capability to acquire and manage IP from non-CGIAR sources. The consequences of the creation of a Federation Office on IP management were discussed. Because of the diversity of IP products and the

location of the CGIAR Centers, it was agreed that the Centers should continue to retain ownership of their IP, but that certain aspects of the management could be done by the Federation Office. The following are examples of the areas where advice and counsel are needed: terms and conditions for ownership of IP; dispensation of intellectual property rights; and, infringement liability.

Since the Federation Office will be a legal entity, it will also have the opportunity and capacity to negotiate for system-wide agreements and receive and manage possible revenues from Center-owned IP that was sub-licensed to the Federation Office. These control activities can be conducted by an expanded CAS-like unit within the Federation Office.

TAC' S SEVEN PLANKS

Preparatory documents for the Retreat considered the implications of TAC's seven strategic planks for the work of the centers (Attachment B). The Retreat examined the 7 planks for convergence with the centers' federation and collaboration proposals. We noted that the seven planks addressed essentially the how to do rather than the what to do in the research program. The planks are interlinked with each other. Especially, planks 2 (highest priority for research needs of South Asia and sub-Saharan Africa) and 4 (adopting a regional approach to research planning to address heterogeneous nature of poverty) and planks 5 (diversifying and integrating partnerships) and 6 (adopting a task force approach) are closely related.

The Retreat agreed that, broadly, there was strong convergence between TAC's seven planks and the federation and collaboration models. However, the Centers' views diverged from those of TAC on some of the detail. The changes needed in implementing the seven planks would have to go beyond the creation of the federation and down to the level of the centers' priorities and plans.

The first plank, a focus on poverty, provides for a focus on a limited set of strategic missions incorporating a system effort and represents a major shift from a crops/resource system focus to a people focus. Each center in the system and the whole system itself will need to look at its strategy and determine how to address poverty.

Poverty is a multi-faceted problem and it needs integrated solutions.

Regional/ecoregional integration will be greatly facilitated by the formation of the federation and the adherence to the code of conduct. Greater integration will be sought between the agricultural and natural resource management work of the centers and relevant work in environment, education and health sectors. Center medium term plans and research projects will be revised and the centers' Federation will cater for effective cooperation across sectors and among centers and between the partners that work towards poverty alleviation as a strategic mission.

The 2nd and 4th planks provide for brokering/convening center mechanisms for setting regional priorities, for programmatic integration of research and for setting regional task forces to address regional needs. The centers proposed actions on regional programmatic integration are addressed in the draft Plan of Action above. In addition, the centers note that ecoregional programmatic integration should be given as high a priority as regional integration.

With respect to bringing modern science to bear (3rd plank), the Retreat considered that where modern science has a systems relevance, e.g., information technology such as GIS, the codes for collaboration and the federation will provide more efficient means to have the centers collectively apply such science methods. Otherwise, centers will do so on specific problems associated with their own mandates. The Retreat emphasized the importance of the Centers being at the cutting edge of relevant science and of the need for continual improvement in the quality of science for development.

Implementation of the Code of Conduct and the formation of the federation both have a strong bearing on the brokering and convening power of the centers, including those involving task forces involving centers and others as appropriate (planks 5, 6 and 7). The Retreat emphasized that task forces are not the only mechanism for research collaboration and should be the mechanism of choice only when appropriate. In addition, the Retreat underscored the necessity of full-time working scientists at the Centers who are knowledgeable of the situation on the ground and can tackle the complex problems on a long-term basis. Further, the researchable issues to be addressed by task forces or other research collaborations will be determined by those intimately involved, including the centers and not be a central body such as TAC. TAC's roles would be to monitor and evaluate the work of task forces, not to determine, in a top down way, their existence and subjects.

As indicated in the detailed discussion in Attachment B, we do not believe that the diversification of partnership between the centers and others translates into a narrowing of the CG centers research focus, but rather a broadening to address issues in a more holistic way.

The federation of centers will be particularly powerful in elevating the catalytic role of the CGIAR system. However, the centers emphasize that (a) this role cannot be credibly undertaken without a strong and leading research capacity, in house, and (b) care must be taken that conflicts of interest do not arise when centers are also involved as doers of research. The international nature of the centers research work and the fact that they are in for the 'long haul' means that many of their research functions are not easily replaceable by national or even regional bodies. Many important things will not be done unless the centers do them.

OVERALL NEXT STEPS

At the conclusion of their Retreat, the Board Chairs and DGs discussed overall next steps related to the items deliberated and agreed at their Retreat. The Board Chairs and DGs agreed to engage Center Boards, Center colleagues, CG donors, other components of the CG System, and stakeholders in a discussion regarding the items included within this document. Specific next steps that the Board Chairs and DGs will pursue include the following.

- Provide this Working Draft Document to TAC and the Chair of the Synthesis Group for their consideration and comment.
- DGs discuss concepts during the 14 September 2000 conference call with Ian Johnson.

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- Prior to ICW2000, DGs and Board Chairs to engage with as many CGIAR members as possible to introduce and explain the CDC/CBC position, giving particular priority to dialogue with developing country members and their views.
 - Present the concepts within this document to the EAIRD meeting in Lisbon in early October.
 - Engage with the Synthesis Group in discussions regarding the concepts and ideas included within this document.
 - Meet in advance of ICW2000 in a full meeting of the CBC | CDC to deliberate further on these concepts taking into consideration the input from all individuals and entities consulted.
 - Seek legal advice regarding legal issues associated with incorporation of the proposed Federation during the 4th quarter of 2000.
 - Seek input and support from Center Boards during or prior to the 1st quarter of 2001 on the proposal coming out of the October 2000 CBC | CDC meeting. If possible, this should be accomplished in the first quarter of 2001.
 - Incorporate the Federation in the 2nd quarter of 2001 (prior to MTM, if possible).
 - Solicit nominations for Board membership in the 3rd quarter of 2001 and elect members.
 - Convene the first meeting of the Board of the Federation in the 4th quarter of 2001.

ATTACHMENT A – DRAFT CODE OF CONDUCT

Introduction

We, the CGIAR centers and our partners, seek a food secure world for all by tackling the enormous challenges of combating poverty, hunger, malnutrition and the deterioration of the agricultural environment. One of the most important ways of meeting the challenges is by sustainably increasing the productivity of resources in agriculture broadly defined (crops, livestock, forestry and fisheries) in the face of mounting pressures on the environment.

Since the early years of the CGIAR, centers have worked together on a wide range of issues and in all regions of the world. The centers' work has been bound together by their common commitment to the mission of the CGIAR and by their common organizational form as international research centers. Center autonomy has been an important principle and strength as it enabled each center to develop the most appropriate approaches to address the diverse challenges presented by different mandate crops, commodities and resource systems in different geographic regions with different institutions. However, with the increasing complexity of the challenges of poverty eradication, the centers believe that greater progress can only be made when the full capacities of the centers and their partners are combined in creative, flexible and adaptive collaborations focused on addressing problems and issues underlying food insecurity and poverty. Inter-center collaboration will be the centerpiece of our future ways of working.

Stronger collaboration can have a direct and positive impact on the efficiency and effectiveness with which centers work together and with their partners to develop priorities, mobilize and allocate resources, conduct and monitor research, communicate information and knowledge, and transfer technologies.

Despite many fruitful past collaborations among centers, no formal or written codes of conduct at the CGIAR system level have yet been developed to harmonize or codify the processes amongst the participating partners. Many agreements, however, have been forged between and among smaller numbers of centers for specific activities and even across all centers for some system-wide activities and some centers have developed broad partnership policies. The Centers, however, do share common policies and guidelines on Genetic Resources, Intellectual Property Rights and Biotechnology⁸

The present document represents work in progress. It was drafted by a team of center directors general and through discussion at the retreat of the Center Directors Committee (CDC)/Committee of Board Chairs (CBC) at ISNAR in The Hague, 2-3 September 2000. The next stage of its development will be through wide consultation among center staff and center Boards as well as through dialogue with CGIAR partners.

Scope

⁸ CGIAR Center Statements on Genetic Resources, Intellectual Property Rights, and Biotechnology. Published by the Center Directors and Center Board Chairs of the Consultative Group on International Agricultural Research (CGIAR), May 1999.

The CGIAR Centers' Code of Conduct describes the ethical principles underlying our collaborations, both inter-center and with partners outside the CGIAR, as well as the more specific mechanisms, codes of practice and administrative arrangements that govern the ways in which centers work together on a day-to-day basis. A draft plan of actions to address the most critical collaboration issues is also appended.

The ethical principles are organized under three headings, namely responsibilities: as CGIAR research organizations, to partners, donors, subjects and beneficiaries, and as staff. They are the shared values upon which our collaboration is based. The codes of practice for inter-center collaboration includes codes addressing program matters such as program priority setting and integration, representing the CGIAR system, system policies and positions, research management, as well as a range of administrative and corporate service collaborations. On the last, the centers recognize that they are collectively responsible for the world's largest set of research infrastructure that was designed to be the physical platform for research to fight food poverty, hunger, malnutrition and the deterioration of the agricultural environment.

This Code of Conduct should be read in conjunction with the above-mentioned CGIAR Center Statements on Genetic Resources, Intellectual Property Rights and Biotechnology, especially noting 4 of the documents contained therein: CGIAR's Ethical Principles Related to Genetic Resources, the Guiding Principles for the Consultative Group on International Agricultural Research Centers on Intellectual Property and Genetic Resources⁹, Principles Involving CGIAR Center Interaction with the Private Sector and Others and CGIAR Centers' Position Statement on Biotechnology.

Ethical Principles Statement

Responsibilities as Research Organizations

- Centers will conduct all their transactions with full transparency and will be accountable for all their actions. They will respect international laws, national laws and regulations applicable to their research work.
- Centers will conceptualize research that is relevant to the CGIAR mission, cost effective, efficiently implemented and of an excellent quality.
- Centers will report on their research, distinguishing clearly between findings, interpretations and recommendations.
- Centers will practice and advocate the free flow of information and prompt access to the results of research. They will nurture an organizational culture in which the public good scientific ethos applies, including open access to information, repeatability of experiments, honest and fair representation of results, freedom of speech, print and presentation. They will contribute to the public debate and stimulate the improvement of policies based on the insights from their research.
- Centers will create open, adaptive and learning organizational cultures which encourage the professional development of staff. Quality of contributions, innovation and teamwork will be recognized and valued.
- Staff at the centers shall be able to enjoy a work environment free from all forms of harassment on the grounds of race, color, religion, sex, ethnic origin, political

⁹ Presently being revised and updated.

affiliation, sexual orientation, age, marital status, disability as well as all other non-work related factors in all aspects of the Center's personnel policies and practices.

- Center staff value professionalism, commitment to our goals with a sense of urgency, inter-center collaboration, partnerships with others and impact of our work

Responsibilities to CGIAR, Partners, Donors, Subjects and Beneficiaries

- The CGIAR aims to promote lasting benefits in the developing world, through its research and partnerships. Noting the centrality of the CGIAR mission to eradicate poverty, malnutrition, hunger and the degradation of the natural resource base of agriculture, Centers will plan and perform all their research and related activities consistent with the CGIAR mission and its research agenda. The activities will also be fully consistent with the most up to date and appropriate human health, biosafety and animal welfare practices. In so doing, the centers will respect the political, cultural and institutional sensitivities of partners, donors, subjects and beneficiaries. The centers will respect international laws as well as national laws, regulations and policies applicable to their research work.
- The participation of research partners, subjects and beneficiaries must be entirely voluntary at all stages of the research. Centers will fully inform them of the nature of their participation and clarify expectations at the outset to avoid potential conflicts or misunderstandings. Centers will secure permission from research subjects before any research activity is carried out. Centers will also ensure that the rights and responsibilities of productive research partners are governed by a written contract (e.g., MOA, MOU, LOA) or as appropriate.
- Centers recognize that they need diverse approaches to partnerships due to the great variation that exists in the character of potential partners and the partnership tasks. In selecting partners or accepting to be a partner, centers will ensure that they and the partners are compatible and have relevant strengths/resources needed for undertaking the collaborative activity. Centers need to evaluate requests for collaboration from NARS, NGOs universities, development organizations, and private sector organizations relative to the needs, capability and resources of the requesting agency/individual to be a partner in research.
- Partnerships should have a shared vision of needs being addressed and how these may be addressed. They should be on a participatory basis, with joint sharing of complementary skills, responsibilities and accountability and be based on mutual respect between the parties. They should contribute to the achievements of CGIAR goals by being related to the System's research and research-related activities and be strategic in nature.
- Centers will give due credit to the actual contribution of each partner. Planned research outputs, including authorship, should be clearly set out before the work is underway. Attribution will be widely shared.
- Centers will respect and nurture the trust and confidence of all donors and do their utmost to plan, implement and deliver research services to the mutual satisfaction of CGIAR and donor needs. In accepting and seeking donor funds of any kind, the centers will ensure that the donor and CGIAR interests are compatible and that no conflict of interest arises.
- Centers will respect the public reputation of the CGIAR and will actively promote the cause of the CGIAR in public fora. Centers will not, whether knowingly or negligently,

act in any way that may bring discredit to the CGIAR or lead to loss of public confidence.

Responsibilities as Center Staff

- Staff in the CGIAR Centers shall conduct themselves in a manner which reflects with credit on the Center, the CGIAR and its mission. They shall treat colleagues, partners and stakeholders with personal and professional respect and courtesy. Staff shall use honest, open and complete communication on professional activities, respecting lines of reporting.
- Potential conflicts of interest (i.e. employment/consultancies outside the centers, personal financial investments, involvement in politics) shall be avoided.
- Staff shall respect the property of the Center and that of colleagues, partners and donors. They shall use the Center's, partners' and donors' property, money, goods or services economically (avoiding wastes and extravagance) and only for official purposes.
- Staff at the centers shall observe confidentiality of any restricted information concerning the Center and its partners and stakeholders which they may gain in the course of their employment. They understand and respect that all intellectual property rights accruing from their work at the Center, rightfully belong to the Center. They will respect agreement rights entered into by the Center.

Codes Of Practice

Codes for Inter-Center Collaboration of a Program and Substantive Nature

Research Priority Setting, Program Integration

- Programmatic Integration: The CGIAR Centers recognize the need for substantive collaboration or programmatic integration at a global, eco-regional and (sub-)regional level. The objectives of programmatic integration for the CGIAR Centers are to:
 - Enhance efficiency and effectiveness of partnership:* simplify, streamline, and clarify relationships with partners (both within and beyond the CGIAR) by providing an integrated framework of entry for the complete CGIAR research portfolio, reducing transaction costs and confusion/duplication/overlaps;
 - Improve research effectiveness:* broaden Center's perspectives beyond mandate limitations to a holistic, systems approach tailored to social, institutional, and biophysical conditions, so as to become more targeted and relevant to achieving poverty reduction and food security while protecting the environment of this region;

Realize potential synergies by bringing together the comparative advantages of the different partners; and

Increase operating efficiency: reduce total costs through sharing of facilities, research support, administrative and managerial resources.

If genetic resources are included in the research agenda, the program of work will be guided by the CGIAR's Ethical Principles Relating to Genetic Resources¹⁰.

- Setting the research program: All research carried out through inter-center and other partner collaborations will be directed fully to the needs of the CGIAR's beneficiaries and will uphold the highest ethical standards of research for development.
- A consistent approach to common partners: Priority setting and program integration are nearly always done by the centers in collaboration with many other partners. All CGIAR centers will do their utmost to ensure that they harmonize their approaches to partners, and their policies and procedures in working with common partners, except where the research program content dictates otherwise.

Representing the CGIAR System

- In country representation: When more than one Center has research personnel and facilities in a country, the various Centers will formally agree on how they wish to be represented in their transactions with the local agencies.
- Representation at for a: Center managers and staff are increasingly called upon to represent the System, beyond representing their individual Center, in diverse fora. Center staff fulfilling such representations will ensure that the message delivered on behalf of the System is consistent with CGIAR system policies and procedures

While representing the System, centers may still promote their own center's interests provided that, in this context, a conflict of interest does not arise with the responsibility of representing the System.

The use of the CGIAR label will help distinguishing system representation from Center representation.

System Policies and Positions

- Consideration on when an issue warrants a system policy at the inter-center level Two or more Centers, or even all Centers, may share common issues that affect, positively or negatively, the image of the CGIAR. Such issues may be identified by Centers or from the outside.

In such cases the Centers concerned will strive to reach a common position by consensus. By default of a consensus among all concerned, guiding principles could

¹⁰ CGIAR Center Statements on Genetic Resources, Intellectual Property Rights, and Biotechnology. Published by the Center Directors and Center Board Chairs of the Consultative Group on International Agricultural Research (CGIAR), May 1999.

be developed by a majority of Centers, leaving leeway in the implementation for those Centers not, or not yet, ready to accept a common position. In case no majority can agree on a common position, the debate and difference among Centers about the issue should be acknowledged and be transparent.

Research Management

- Cross-institutional research: To capitalize on the capacities of the CGIAR centers, opportunities for systemwide or multi-center undertakings that will enhance the chances of achieving our mission will be actively sought. Centers will individually and collectively seek collaborative research opportunities and, at the same time, will seek to make inter-center collaborations as seamless and efficient as possible. When a need for a systemwide or multi-center undertaking is identified, the Centers concerned will develop a coherent and mutually acceptable systemwide/multi-center program and put in place the necessary mechanisms to ensure an effective and efficient implementation.
- Shared scientific appointments: Joint scientific appointments among Centers aim at increasing inter-center synergies and reducing costs.

In order for these to be effective, clarity is required at the onset about the program, administrative and financial arrangements concerning the appointee, including supervision, accountability and evaluation.

In addition, Centers concerned will agree by the time of joint appointment on the modalities of recognition of credit for the appointee's achievements.

- Intellectual Property and Transfer of Germplasm Policies: Centers will develop a common policy on intellectual property rights beyond genetic resources, and dealing with subjects such as research processes and other research or research related products.

Similarly Centers will develop a common policy regulating the transfer of germplasm among Centers and other organizations.

- Scientific performance assessment management: Centers will strive to harmonize their process for scientific performance assessment, particularly with regard to collaborative undertakings and joint staff appointments.
- When planning inter-center meetings and other events, the convening center should give the other centers at least 3 months notice of the event and should respect the appropriate channels of authority in inviting staff from other centers.

Public Awareness

- CGIAR: Centers will encourage, and facilitate, their public awareness and resource mobilization staff to strengthen inter-center collaboration in these areas, as well as with CGIAR.

- PARC actions: Centers will support to the fullest extent PARC initiatives approved by the CDC.

Resource Mobilization

- Responsibilities vis-?-vis donors: While responsibility for resource mobilization rests with the individual Centers, Centers will inform each other of funding opportunities not competitive for their own needs. In no case will Centers impede resource mobilization efforts from fellow Centers.

Centrally undertaken fundraising activities by CGIAR for its own operations, center-based projects, or systemwide undertakings will receive Centers full support.

In the case of systemwide or multi-center undertakings, the Lead Center will be fully supported in its effort to raise funds for the undertaking as a whole from the participating Centers. The lead Center may capture more benefits than the supporting Centers, and it may be necessary for the latter to negotiate in advance with the lead Center on how their efforts are recognized.

- Ethics in dealing with donors: Centers' relations with donors will be based on the principles of honesty, openness and transparency.

Codes of Practice for Inter-Center Collaboration of an Administrative and Corporate Services Nature

Administrative Cooperation in General

- Purpose of administrative cooperation: Administrative cooperation may be codified through standard procedures and arrangements or through central provision of services. This should be aimed at reducing transaction costs and overheads and to improve the fair and transparent treatment of NARS and other partners and national staff when more than one Center operates in a locality.
- Joint Services Initiatives: Centers have initiated the establishment of a number of joint service facilities in different areas in order to increase efficiency and harmonization of policies and procedures among Centers. Among these are the Gender and Diversity program, AIARC, IVDN, CAS, and CGIAR.

Centers will maximize the use of these joint facilities while reviewing periodically their usefulness and comparative cost-effectiveness vis-?-vis other sources for such services. Centers will explore opportunities to expand such joint service facilities, for instance in the case of production of publications, or arrange for common outsourcing for laboratory analyses, genome sequencing, portals for Databases and GIS overlays, biometrics, etc.

Financial policies

- Overhead charging: In line with the System policy on overheads, Centers will seek full cost recovery on programs and projects whatever their source of funding may be.

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- Cross charging: When two centers host each other's staff at one or more locations, the principal means of exchange will be through full cost charging (including overhead). This will ensure transparency of costs at different locations, and facilitate centers' site management and budget planning and reporting. However, this does not preclude other modalities when both parties recognize a more efficient and transparent means of exchange..

Human Resources

Shared personnel: Besides joint appointments of scientific staff, Centers will explore further possibilities of joint appointments in support and administrative functions such as finance (audit), human resources, public awareness and resource mobilization. The latter is exemplified by CGIAR. Details regarding shared personnel are to be worked out by the respective partners 'and should distinguish the hierarchical and functional managers. It is realized that it may be difficult for an employee to report to more than one superior, but evaluation of performance should be carried out jointly by the various superiors.

Infrastructure

- Hosted office arrangements: In locating staff away from headquarters, Centers will attempt, whenever possible and operationally effective, to use existing facilities of fellow Centers.
Hosting arrangements will be based on the principle of coverage of the full real costs including overhead by the hosted Center.

ATTACHMENT B – FULL RESPONSE TO TAC'S SEVEN PLANKS

Implementation of the TAC Strategies by the Centers

1. Poverty Focus

Until recently poverty alleviation was considered a subsidiary rather than the primary goal of agricultural research which was to increase food supplies through cost-reducing changes in technology that would permit food prices to fall. This led to a focus on irrigated and high-potential rainfed areas, basic foodgrains, and often medium to large sized farms where the productivity returns to agricultural research were perceived to be highest.

While this strategy was enormously successful in achieving its goals, and did lead to real benefits for both the poor and societies in general, it was not necessarily the best strategy for alleviating rural poverty. Poverty still abounds, even in those countries that have solved their national food problems.

The maintenance of the natural resource base on which all agricultural production depends was also considered a subsidiary goal of agricultural research. Depletion of natural resources such as water for agriculture, soil nutrients, forested watersheds and natural fish stocks are most acute in areas where the rural and coastal poor live. Benefits that farmers produce for the global community (carbon sequestration, agrobiodiversity conservation) should be reflected in ways that alleviate poverty. The focus on food security, poverty and environment provides a solid foundation for the CGIAR in this decade.

At a time when global food supplies are plentiful, there is greater opportunity to develop research strategies for the public sector that are more overtly pro-poor. This opportunity is enhanced by the increasing role the private sector plays in addressing many mainstream productivity challenges. The private sector's role seems likely to grow as the twin developments of biotechnology and IPR regimes redefine the traditional public-goods nature of much agricultural technology. Although food supplies must be doubled again over the next 20 years, the public sector's role will be different than in the past. It needs to be more sharply focused on solving the problems of poor farmers and consumers. This will require greater attention to private sector under-investment in agricultural research for poor farmers.

Greater integration will be sought between the Agricultural Research, Environment, Education, and Health Sectors. Center Medium Term Plans and research projects will be revised, and the Center Federation will cater for effective cooperation across sectors and among centers, and between the partners that work towards poverty alleviation as a strategic mission.

2. Bringing Modern Science to bear on the CGIAR's Goals

One of the major changes in the Centers' working environment in the last decade (although perhaps more evident in the last 5-6 years) has been the revolution in scientific methodology. These technologies include new knowledge and tools from: functional genomics/proteomics; marker-assisted selection (MAS) and genetic engineering; G.I.S.; spatial modeling; remote sensing; communication and information technologies; and computing technologies. They each have the potential to influence all research programs, and in many cases are used significantly in the Centers.

The Centers are moving to adopt and integrate these technologies into their research work for two major reasons. Firstly, they believe that in many instances new science will make their research more effective and efficient. Good examples of this include MAS for breeding programs

and GIS/modeling for scaling up of natural resources research. Secondly, new scientific approaches provide exciting potential to tackle research problems, which have proven very difficult or intractable in the past. A good example of this is stress tolerance in crops, where new approaches through functional genomics, are providing great promises of breakthroughs in drought tolerance and disease resistance. Advances in molecular genetics and genomics have accelerated as a result of huge investments in human genetic and medical research; Centers are positioned to adapt these advances, and transfer them to the improvement of agricultural plants and animals

The challenges for the Centers in adopting new science, however, are significant. In many instances it requires investment in new skills and/or new staff, new equipment and facilities, and additional new and different partnerships. In relation to the latter, as much of the global investment in new science has been in advanced research institutions (ARIs) –both public and private– the Centers are moving into more effective and more strategic research alliances with ARIs. This has required greater attention to the management of intellectual property and to negotiation of research agreements. In order to support such alliances the Centers have revised the *“Guiding Principles for the Consultative Group on International Agricultural Research Centers on Intellectual Property and Genetic Resources”* and commissioned a study on models for managing IP in the CGIAR System. In addition, all Centers use common Material Transfer Agreements for the exchange of both designated and non-designated germplasm. The Central Advisory Service on Intellectual Property (CAS) is providing advice to Centers on better IP management and some Centers have already established in-house IP management units.

The overall impact of ‘new science’ on the work of the Centers is highly positive and there is little doubt that the Centers will move effectively and rapidly to take advantage of new discoveries, e.g., availability of genomic maps, as they occur. There is not only a sense of excitement amongst Center scientists, but also amongst partners north and south, that these new technologies can be harnessed effectively for the benefit of the resource-poor and the environment.

3. Priority to Poverty Stricken Regions

TAC especially focused on south Asia and sub-Saharan Africa due to the large aggregate number of poor in these regions and, in the view of the centers, underestimated the importance of poverty eradication needs in the other regions. The following summary is an attempt to provide a more balanced regional perspective on poverty in all regions.

The Strategy for the CGIAR in Sub-Saharan Africa

Over the past year, Centers with African partners developed the following joint vision for the CGIAR in SSA which reads as follows: *The Centers, in partnership, see their role in sub-Saharan Africa by the year 2020 as having contributed to the goals of the African agricultural research community of attaining food security and poverty eradication through research, policy support and capacity building based on the environmentally sound management of natural resources.*

This vision is fully congruent with the Vision for African Agricultural Research with the following long-term goals: food security and poverty alleviation; competitiveness of African agriculture; and enhancement and sustainability of the natural resource base.

The strategy for achieving this joint vision employs four principal elements:

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- *Technology for Sustainable Development* -- participatory, integrated approaches to increasing sustainable market-oriented production in crop, livestock, fisheries, forestry and agroforestry systems, with a focus on the application of the best of science, integrated gene management, integrated natural resource management, integrated pest management, advanced information and communication technologies; and value adding post-harvest technologies and processing.
 - *Technology Dissemination and Farmer Empowerment* -- Strengthening capacity for technology dissemination and promoting farmer empowerment through: experimenting with and documenting innovative approaches to dissemination of knowledge-based technologies; facilitating intra- and inter-regional exchanges of technology and experience in technology dissemination; developing new methods of exchanging biotechnologies, complying with biosafety regulations and negotiating issues of intellectual property rights; supporting NARS in assessing adoption and farmer-level impact of research products; developing more effective techniques and methods for participatory research, gender analysis, and scaling-up of research products for wider impact; and being a creditable partner in the African research-development continuum.
 - *Policy research* -- The CGIAR and national partners will strengthen collaboration for policy research at the national and local levels, including building national capacity for policy research through: conducting joint policy research analysis on areas such as barriers to technology adoption, access to input and product markets and common property at the community level, the impact of sector-specific and macro-level policies on natural resources, interalia; developing primary databases and methodologies that will facilitate cross-country policy analysis; conducting joint NARS-CGIAR high level dialogues with key African policy makers, particularly those from outside the agricultural sector, to promote political commitment to agricultural research; and assisting NARS to gain credibility and influence with policy makers in their own countries.
 - *Capacity Building* -- The CGIAR will contribute to capacity strengthening, including: enhancing NARS' capacities in natural resource management research, policy research, biotechnology, information technology, technology dissemination and farm-level impact assessment; assisting NARS to develop systems for increased public awareness and resource mobilization; organizing training for more efficient use of human resources, available physical facilities and priority setting; developing NARS' skills in managing organizational change and managing partnerships; and devolving disciplinary training to African universities, allowing the CGIAR to focus on the subjects listed above.

With regard to operationalizing the strategy, the Centers have a key role to play in bringing the best of science to agricultural research in Africa. The Centers will also play a catalytic role in encouraging advanced research institutions to collaborate in technology development, capacity building, technology transfer, and policy research. The NARS will lead research which addresses constraints to national agricultural development, including traditional breeding and agronomy; the Centers will be increasingly involved in a facilitative and backstopping role for research, primarily relevant to national agricultural development.

The Strategy for the CGIAR will be implemented through innovative and effective partnership, based on joint planning, execution and evaluation of activities, effective communication, and mutual trust and respect among all partners. NARS-CGIAR

partnerships will be facilitated by the three African sub-regional associations, and improved mechanisms for improved collaboration include:

- *Improved Collaboration with African Partners* -- New and more effective partnerships between the Centers and their African partner institutions will share commitments to excellence in science and capacity building for the long-term viability and sustainability of the national research systems.
- *Co-ordination and oversight of CGIAR activities in sub-Saharan Africa* -- Co-ordination among the Centers will improve the efficiency and effectiveness of the work by the NARS-CGIAR partners. Particular attention will be given to co-ordination within the sub-regions, and improved mechanisms for co-ordination are being developed. For logistical reasons these activities will be subdivided in two regions West/Central Africa and East/Southern Africa, making the work more efficient and cost-effective. This is similar to the well established distinction between Southeast Asia and South Asia.

A Regional South Asia Strategy

The objectives of a regional South Asia implementation strategy for the Centers are to:

- Enhance partnerships -- Simplify, streamline, and clarify relationships with partners (both within and beyond the CGIAR) by providing an integrated framework of entry for the complete CGIAR research portfolio, reducing transaction costs and confusion, duplication or overlaps.
- Improve research effectiveness -- Broaden Centers' perspectives beyond mandate limitations to a holistic, systems approach, tailored to the social, institutional, and biophysical conditions of South Asia, so as to become more targeted and relevant to achieving poverty reduction and food security while protecting the environment of this region;
- Realize potential synergies by bringing together the comparative advantages of the different Centers; and
- Increase operating efficiency -- Reduce total costs through sharing of facilities, research support, administrative, and managerial resources.

Implementing a regional strategy -- Since the rationale is largely based on expected gains in partnership and relevance to partners' and clients' needs, a consultative process, modeled along the lines of the 'Meeting of Minds' in Africa, is suggested. This would involve a brainstorming event including both Centers and partners, such as APAARI, NARS leaders, and selected representatives of the NGO, private- sector, farming, and donor communities. The purposes of this meeting would be to:

- Assemble an inventory of existing activities and technologies ready for dissemination, so that a shared awareness of the current situation can be created;
- Gain an understanding and buy-in on the concept of transitioning to this mode of closer regional cooperation among Centers and its consequences for existing partnerships and activities;
- Brainstorm on opportunities and priorities with respect to the four rationale points above, and identify joint activities to be launched with emphasis on promotion and uptake;
- Plan the next steps, e.g. working groups on particular themes, and/or other modalities.

Other regions

Tackling Poverty in the WANA and the CAC Region (CWANA) -- Some 640 million people currently inhabit 35 countries in the West Asia–North Africa (WANA) and the Central Asia and the Caucasus (CAC) region (CWANA). A study undertaken by ICARDA revealed that some 238 million people in these countries were below their national poverty line, i.e. they did not have sufficient income to obtain a nutritionally adequate diet plus essential non-food requirements. The quantification of poverty, based on poverty line, is incomplete because it does not reflect material deprivation (including access to natural resources of land and water), isolation, alienation, dependence, lack of decision making power and freedom of choices, or vulnerability to weather induced risks in dry areas. But in the absence of complete information on all these indicators, use of per capita income provides at least some conservative estimates of the magnitude of poverty. Since per capita data for people with a particular threshold income are also not adequately available for several countries in CWANA, ICARDA's estimates, based on World Bank sources, are that some 220 million people in the region have a daily per capita income of less than US\$ 2; indeed some 92 million have an income of less than US\$ 1. The countries in WANA with a major proportion of the poor are Afghanistan, Egypt, Eritrea, Ethiopia, Mauritania, Morocco, Pakistan, Somalia, Sudan and Yemen. In the CAC region, a sizable population (around 50%) of all countries is below the national poverty line but the proportion is relatively higher (around 70%) in Azerbaijan, Kyrgyzstan, and Tajikistan.

Although poverty has many dimensions, an important one in the CGIAR context is access to natural resources. The CWANA region farmers are particularly poor when it comes to availability of water and arable land. WANA has an availability of only 1500 m³ of water per capita in contrast to an average of 7000m³ per capita for the whole world. Also the availability of arable land is limited, and due to increasing population pressure, it is under serious threat of degradation and desertification. The region is a net importer of food, and the food grain deficit of 23 WANA countries, based on the most conservative estimates, is expected to mount to 109 million tones per year in 2020.

Agriculture in the region is based on a rather fragile natural resource base and the farmers, particularly those depending on marginal land and water resources, have been bypassed by the green revolution. It is also to be noted that CWANA is a 'home' to large genetic diversity amongst some of the most important food and feed crops and fruit trees in the World. This biodiversity is under threat of genetic erosion.

The sustainable management of the fragile natural resource base of CWANA would very much depend on the development of appropriate technologies based on ecological principles, through people and community participation. The centers believe that agricultural research can contribute to poverty alleviation and natural resource conservation in the dry areas of CWANA through four strategic approaches:

- Technologies that simultaneously improve productivity and sustain a natural resource base that can be applied by poor people using low-level external inputs;
- Resource management practices that conserve soil, water and agrobiodiversity and do not decrease productivity;
- More diversified farming systems that reduce economic risks, contribute to greater resource-use efficiency; and provide higher returns to the farm communities;
- Improved vertical integration from producer to consumer, including enhanced quality and added value of farm products, improved post-harvest processing and storage, and employment generation.

The CWANA region needs cutting-edge science for integrated gene management, and integrated natural resources management to produce pro-poor technologies for

sustainable agriculture, and effective alleviation of prevailing poverty. The CGIAR has to ensure that such an input remains available.

A Poverty Assessment in East Asia -- Based on the \$1 per day poverty line, East Asia can be considered to have performed better than other regions in fighting poverty. This is primarily due to remarkable achievement in China that was brought about by its sustaining high economic growth. Further reduction of poverty in China, however, was halted in 1996 to 1998 by the financial crisis that affected most countries in the region. In Indonesia, the number of people living below the poverty line decreased from 70 million (about 60% of the population) in 1970 to around 27 million (15% of the population) in 1990. In 1996, only 10 percent of the population was estimated below the poverty line but this rose to 17-18% by the end of August 1998¹¹. In the Philippines, the proportion of households living below the poverty line declined slowly and unevenly from 59% in 1961 to around 34% in 1994. The most recent available data for Vietnam show that between 1993 and 1998, poverty fell from 58% to 37%. In Thailand, poverty incidence fell from over 57% in the early 1960s to around 13% in 1988-94. For other countries in the region, recent estimates of poverty incidence are as follows: Malaysia, 4.3% and Laos, 46%.

Poverty in the region remains largely a rural and coastal phenomenon. These are farmers and fishers with small or no landholdings or small scale fishing capacity, low levels of education, and limited access to information and functional skills. These are farmers whose lands are less fertile and are faced with problems of water availability. Poverty tends to be associated with distance from cities and coastal areas, like in China and Vietnam. In Thailand, where incidence of poverty in and around Bangkok is little more than 1%, it is about 25% in the Northeast and around 14% in the North of the country. These areas of Thailand hold about three quarters of the country's total population. In Vietnam, three areas account for 70% of poverty incidence—Northern Uplands (28%), Mekong Delta (21%) and North Central Coast (18%). The three provinces in Indonesia that account for the highest incidence in poverty are East Nusa (46%), West Kalimantan (34%) and Maluku (29%). In absolute number, however, more than half of the poor in Indonesia live in Java. Two thirds of the poor in the Philippines are engaged in agriculture, fishery and forestry and have attained an elementary education or less.

In East Asia, there is as yet no CGIAR-wide strategy for poverty eradication research although many inter-center initiatives and projects exist such as rice-fish, fish-water and forest-agriculture collaborations between the various centers. Each center working in the region has its own programs which involve many partners inside and outside the CGIAR. For example, IRRI has proposed a rice-based Strategy in Reducing Poverty in East Asia. This is based on the following considerations:

- Rice remains the principal staple food and single most important source of employment and income for the rural people. Its importance is much greater in low income countries and for poor people. Any intervention to further develop the sector would definitely translate to improvement of general welfare, particularly of the small farmers in the rural areas where incidence of poverty is highest.
- Recent changes in the external environment pose greater challenges to the rice research agenda as concerns about productivity, husbanding of natural resources, and poverty demand much broader, more sophisticated and more innovative and integrated approaches.

¹¹ Suryahadi, et al. 1999

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- Building on past achievements, IRRI will continue the role as a bridge to basic science and a major player in biotechnology, particularly the global effort to understand the function of the rice genome.

All centers working in the region need to collaborate and work closely with national and regional organizations such as APAARI, APFRI and the new Group on Fisheries and Aquatic Research in developing suitable regional program integration on poverty research.

Poverty in Latin America -- Poverty in Latin America is both a rural and an urban problem. While some authors use poverty estimates to show that the problem is more serious in rural areas, others use estimates to show that it has become more a problem in urban areas.

For example, IFPRI estimates that in the last 25 years Latin America has not reduced its overall levels of poverty, with an overall figure of 45% of the population living in poverty. The number of poor increased from 120 million in 1970 to 200 million in 1995. A total of 35% of the rural population and 15% of the urban population live in extreme poverty, and 60 million people suffer from food insecurity according to IFPRI's data. However, the TAC commissioned review of CGIAR commitments in Latin America (1997) estimated also that 45% of the population lives in poverty but that urban poor accounted for 65% of all the poor. These interpretations can possibly be reconciled with the same data but from different perspectives.

Latest UNDP figures would seem to support the position that in those countries which are typically considered the heart of the Andean system (Peru, Bolivia, Ecuador), the trend is toward much higher rural than urban poverty. Additionally, the World Bank estimates that in Peru, a typical Andean country, 64.7 percent of rural households were in poverty and 24.5 percent in extreme poverty in 1997. Only 40.4 percent of urban households were in poverty with 9.3 percent in extreme poverty.

Economic growth is accepted as the primary mechanism to reduce poverty; however the World Bank indicates that in some countries lack of technological innovation seriously restricts farmers' ability to increase earnings through increases in productivity, post-harvest processing, and market functions. Public investment in agricultural research is minimal; in Peru it barely reaches 0.2% of the GDP for agriculture.

According to Lopez and Valdes, Latin America distinguishes itself from all of the other regions of the world through the lowest percentages of population in agriculture or living in rural areas; the highest percentage of landless; the highest percentage of rural households in poverty (comparable only to Sub-Saharan Africa); and the highest per capita arable land.

CGIAR Center priorities closely parallel those of the developing country NARS in the region. Because of the investment in the private sector and the privatization of much technology development, NARS have been underfunded and weakened severely over the past two decades. Programs concentrating on working with the poor for technological change in basic food crops have suffered disproportionately to those working towards high-value crops with high market or export potential.

Given its strong track record in Latin America, the CGIAR clearly has much to contribute to the poverty eradication agenda. In addition, through ICLARM, studies on fisheries resource rehabilitation are underway in the Caribbean. These also relate to poverty questions in the largely coastal Caribbean communities.

4. Regional Approach to Research Planning

In addition to the global role many Centers play in delivering international public goods, there is an obvious need to fully synchronize the research agenda of those Centers operating in specific geographical regions. While such regions may contain diverse "ecoregions", a coordinated regional focus is deemed essential also to interact with the NARS sub-organizations, bilateral investors who operate on a regional basis.

A CGIAR shared research agenda would be a component of a broader regional research agenda as conceptualized by our partners in agricultural research in each region.

The 1998 CGIAR system review made a very strong recommendation to have a regional focus on sub-Saharan Africa. In response to that the Center Directors and their African partners developed over an 18-month period a strategy for the CGIAR in sub-Saharan Africa which was endorsed at the Midterm Meeting in Dresden. The centerpiece of this strategy is a shared vision by the NARS and other partners with the Centers active in the region (see above).

Similar activities are taking place in other geographical regions, as the need for a common vision is of obvious importance. The next step is to synchronize the research and development agendas of the Centers operating in a major geographical region and in turn synchronize this shared agenda with that of the national and regional partners.

In the case of sub-Saharan Africa an emerging consensus among the Centers is that two regions be considered, West/Central Africa and Eastern/Central Africa. These two areas are so sufficiently different, not only physically but also culturally, that the costs of treating sub-Saharan Africa as one region would exceed the benefits. Consequently specific research planning should be done at such scales.

Similarly broadly defined regions such as Latin America and the Caribbean and others may be sub-divided as appropriate or considered as a unit, whatever the feeling of the Centers located in such regions.

The planning procedures would vary according to the timetables of the regional or sub-regional partner organizations but would include, as a first step, an inventory of the science the Centers are doing in the particular region and ways to eliminate duplication and missed opportunities and so capitalize on the synergies arising out of deeper inter-center collaboration. Planning activities arising from such an assessment would be developed jointly with our key partners on a periodic basis, for example every two years.

In addition to such a joint approach to research planning, Centers headquartered in a region would attempt to combine, to the maximum extent possible, administrative and research support services that would satisfy three criteria: (1) cost savings while maintaining or enhancing the services, (2) economies of scale, and (3) center sovereignty would not be compromised.

Initial efforts are underway in West/Central Africa by ICRISAT, IITA and WARDA, and by ICRAF and ILRI for Eastern/Southern Africa. Existing arrangements whereby regional activities of many Centers are physically located at another coordinating Center headquarters permit the full incorporation of such services to all centers in a region. Several Centers based in Asia and Europe are also experimenting with shared auditing services.

5. Partnerships

The nature of partnerships within the CGIAR is indeed changing rapidly, and increased diversity of partners is evident. The tendency in the past may have been for Centers to be relatively self sufficient, but today they are forming alliances, and carrying out collaborative

activities in both OECD and non-OECD countries. However, while the number of players in the arena has increased, this does not reduce the role of the CGIAR in hands on-research.

The CGIAR does not believe it necessary to abandon whole areas of research simply because other national bodies are strong in that particular field. Indeed, because of its international public sector role, it has much to contribute to a broad range of topics, and should continue to do so. Its global presence, the fact that it will be present in a given country for the "long haul", and the continuity of its knowledge base all lend to its international credibility.

The CG centers are well placed in the developing world as foci for more holistic approaches to complex and difficult problems related to agricultural research, and the International community sees the Centers as being able to bring planners together on many different challenges. There have been major changes in the CG planning process, and today there are few programs that don't have at least some participatory planning, through collaboration with NARS regional and sub-regional organizations. Some NGOs are also particularly strong in Participatory and Action-oriented Research and in alliances with the CG.

In major research areas such as INRM, for example, having a wide range of partners (from developing country NARS, NGOs, the private sector, and universities, etc.) allows all players to benefit from each other's comparative advantage. However, the CG will need to think more imaginatively about approaching new partners --eminent scientists, for example, and national and international Apex science bodies, in developing and industrialized countries, who are beginning to address more and more of the problems of the world's poor.

6. Task Forces

CGIAR centers have considerable successful experience with multi-disciplinary, inter-institutional task forces that in various forms address the complex and far ranging problems confronting the poor of the developing world. They encompass systemwide programs (Alternatives to Slash and Burn, Participatory Approaches and Gender Analysis, Livestock, Gender and Diversity); ecoregional programs (CONDESAN, African Highlands, Desert Margins); inter-center working groups—chaired by a DG and composed of Center working scientists (Information; Climate Change, Plant Genetic Resources) and CDC task forces with DGs only (Intellectual Property, Sub-Saharan Africa; Central Asia and the Caucasus; Natural Resource Management). All of them share a common characteristic; they are virtual, i.e.; no specific physical locations, and largely relying on email communications with periodic meetings; varying structures. But they have lead to the development and implementation of concerted joint initiatives on the ground and in the realm of strategic planning, and in some cases leading to the development of shared or combined research agendas among Centers within the CGIAR. Thus the TAC-proposed strategy for using task forces to address significant challenges does not represent a new approach for the CGIAR. Having said that, it should be noted that the success of this approach to problem solving is highly dependent on consistent and longer term support from investors, clear governance, stable research platforms of the centers and active involvement on the part of all key stakeholders.

Some of these task forces operate at the global scale while others are regionally or ecoregionally focused. Likewise some Centers operate at the global scale, others at the regional scale but most Centers operate at both global and regional scales. Only one Center operates exclusively at the regional scale.

7. Implementing the Catalytic Role of the Centers

Over the past several years, the Centers as a whole have placed greater emphasis on out-sourcing their work, out-posting their staff and, in situations where NARS capacity is strong,

moving to a more supportive and catalytic role. At the same time ARIs in many developed countries have increasingly sought to build up their international links, and many are looking to the Centers to help them in this. We see these trends continuing.

The Centers have responded to the changing environment in many ways, and increasingly through their support for, and participation in, research networks. For some Centers networking is a primary way of operating. As NARS have become stronger they have often taken over the role of “convening” networks and in such cases the Centers have moved to take a more “backseat” or catalytic role. We foresee networking becoming even more important in the future, and new partnership mechanisms evolving. Indeed a number of new, innovative global programs are under development, with strong input from the Centers, that are bringing together expertise and other resources from the public and private sectors, government and non-governmental organizations—North and South—to solve problems of common concern.

Some Centers currently allocate more than 25% of their total income to outsourcing research and other activities. In the past much of this work has been contracted to advanced institutions in the North - often with funding provided by the national government of the ARI concerned. As the research capacity in many developing country NARS has developed, so it has become increasingly cost-effective to outsource certain components of the research agenda to institutions in the South. We see this trend continuing as such action not only results in cost-effective research, but also helps to further reinforce the capacity of the collaborating institutions. In addition, the Centers are increasingly providing a conduit for effectively and reliably channeling donor’s funds to NARS.

Over the coming years the Centers plan to outpost an increasing number of staff to centers of excellence where they can have access to the latest equipment and research techniques. Such outposting is considered more cost-effective, in certain research areas, than the Centers themselves trying to keep up with the latest facilities. While plans to date have mostly involved posting staff to research institutions in developed countries, increasingly we foresee such outposting taking place to centers of excellence in developing countries - and thereby having the added benefit of bringing additional expertise and resources to the Centers concerned. Indeed there are already examples of this.

The outsourcing of research and the outposting of staff, together with program downsizing due to funding shortfalls, have already started to free up some of the research infrastructure at the Centers. Innovative arrangements have already been put in place by some of the Centers to make this “spare” capacity available to NARS and other organizations, and more such arrangements are expected in the future.

DIAGNOSIS OF THE MOTIVATIONS FOR CHANGE: OBJECTIVES OF CHANGE; SYSTEM STRUCTURE, GOVERNANCE AND MANAGEMENT

Background Paper

Center Board Chairs and Center Directors Committee

Retreat

2-3 September 2000

ISNAR, The Hague

EXECUTIVE SUMMARY

This background paper starts by summarizing the views of CDC, CBC, donor and many other stakeholders on the externally and internally driven motivations for change within the centers and the CGIAR system. A set of change objectives are then formed, 10 organizational models examined and discussion focused on the models that are more appropriate for the centers to consider. This paper therefore deals more with the how and with whom the CGIAR centers work, rather than what they do and why – the program and mission, the latter being covered in the TAC Vision statement and companion paper and the centers response to its suggested strategies.

A. Motivations for change

With the increasing connectedness of the world and complexity of the CGIAR mandate, the CGIAR is operating in a more open and complex work environment than ever before. This openness will increase at an even faster rate than in the past decade.

Many views have been expressed on how the CGIAR should change and adapt itself. NARS views have been in the minority although some strong contributions have referred to the need for the NARS and the regional agricultural research bodies to evolve along with the IARCs.

The main external motivations for change are the declining levels of ODA, lessening importance of agriculture and rural development but a continuing strong demand for the centers outputs by development assistance agencies, changes in the NARS, increasingly complex partnerships and changes in science and the electronic information revolution underway. The centers in the system have undergone fundamental changes in their financial and research partner dependencies over the last decade, and are now less subject to the hierarchical resource and program decisions of TAC and the Group, compared to the days when most funds were given to unrestricted core.

Internal motivations for changes in governance include the loss of a cosponsor, strains on the current system due to unclear accountabilities, the need for the system to perform as a true system and the perceived ineffectiveness of the present plenary meetings. Expressed drives for internal structural change are mainly concerned with the structure of the centers and not the system as a whole. Motivations for internal management changes are concerned with the more complex array of programs, IPR issues, the tension between the management needs of germplasm improvement and integrated natural resource management research and competition among centers for resources.

B. Objectives for change

To assist the CGIAR system, through its centers, to deliver its mission in a rapidly changing and dynamic world, the centers have defined 12 objectives for change.

C. System governance, structure and management

Most debates on the CGIAR have been more concerned with the structure of the centers and how they should be configured, or even whether the centers should exist or needed to exist. The present paper looks at models for the whole system and treats center arrangements as a secondary feature. The power over restructuring the centers rests in very different hands depending on which system organization model is adopted.

There is no single and simple arrangement for the CGIAR. Any major changes in the organizational model of the system will require careful consideration of how the full set of system functions are to be discharged. These functions and the system parts presently responsible are listed in this paper.

10 different types of organizational structures are examined, namely the present system, a unitary corporation, a multidivisional corporation, holding company, franchise, federation, network, strategic alliance, virtual organization and foundation. Characteristics of each of the 10 organizational types are described. Based on the change objectives given in B, each organization type is tested against its expected ability to help the system achieve the objectives. Governance and structure was briefly reviewed for a number of complex international organizations (CGIAR, Red Cross, CARE, Oxfam, WWF and Greenpeace).

Discussion

The analysis shows that any option other than the CGIAR requires a legal identity at the center and ownership of this by the member units. The main options for the CGIAR appear to be the corporate/holding company and a federation¹².

However, the corporation models are more 'top down', concentrating power at the top and running the risk of losing or deliberating factoring out minority elements of the system and losing the strength of multiple access points at least in the early formation years. If the CGIAR were to create a corporate structure, the likely first steps would be a strong centralization trend to firmly form the corporate entity. This stage would take years. It would then need to recreate a more decentralized form.

The federation model appears to offer the best opportunity for dynamic and even healthy tension between the functions of the federal center and the federated units. The units would be responsible for paying most of the costs of the center. The federation would be a legal entity with concomitant responsibilities. Under the federation model, the Consultative Group itself could be transformed into a consultative forum for science and development debate, as well as providing a marketplace for the centers and their partners. Through the Consultative Group or through more direct bilateral or regional relationships, much stronger and more varied strategic alliances must be forged with key members. Stakeholder consultation could be provided in a number of ways and at various levels from the project/program, to center to system level.

¹² The system may wish to formally call itself something more or less synonymous with 'federation' such as 'coalition', 'league', 'alliance' or 'union'.

The centers would adhere to codes of conduct, which would build on but go well beyond the present draft codes in its scope. They would undertake a major early exercise in looking for economies of scale and gains in efficiency and effectiveness through sharing of policies, management operational systems and practices. By yielding some autonomy on their processes, the centers should gain greater freedom to focus their attentions on their relative work program strengths.

A draft set of responsibilities for the coordinating federal unit is given. Changes to the actual structure of the centers are an issue that would be left to the centers themselves.

A. MOTIVATIONS FOR CHANGE

This section reflects CDC, CBC, donor and many other stakeholder views on the externally and internally driven motivations for change within the centers and the CGIAR system. The views are presented with the aim to distil from them a compelling view of the main drivers of change and the opportunities presented. To these ends, the Item deals more with the how and with whom the CGIAR centers work, rather than what they do and why – the program and mission. The latter are covered in the TAC Vision statement and companion paper and the centers response to its suggested strategies.

Background to the Diagnosis of Motivations for Change:

In considering the motivations for change in the CGIAR system, it is important to recognize that the CGIAR is a system and therefore consists of many parts (see Appendix 1). When addressing the questions of change, we will often need to be clear about the specific parts of the system to which we are referring. The CGIAR website names the following parts of the system:

- The Consultative Group (The Chairman, Cosponsors and other members);
- CGIAR committees (standing, advisory, partnership and ad hoc);
- The centers and center committees; and
- The central service unit (the CGIAR secretariat).

The CDC/CBC will be most interested in changes by and affecting the international research centers. However, since all parts of the system are highly inter-linked, the CDC/CBC are vitally interested in the governance, structure and management of the whole system.

A review of materials and sources listed in Appendix 2 indicated that center, system and stakeholder views on the underlying needs for change are based on the reality and perceptions that:

- Great changes have occurred in the operating environment since the inception of the CGIAR nearly 30 year ago and hence the CGIAR system must change and/or evolve to achieve its mission; and
- A plethora of often conflicting views exists on the present and future CGIAR roles and hence on how the system is arranged, i.e. its governance, structure and management.
- The draft synthesis of the recently completed e-mail conference on CGIAR governance, structure and management concluded that the *'issues...reflect profound differences of opinion about ... the mission of...the CGIAR and ...strategies ..required to achieve its goals and objectives. (The CGIAR) therefore needs to spend more time in building consensus (on mission and strategies).. (or) build a narrow coalition and move ahead ...rather than risk paralysis..'*

Motivations for Change:

With the increasing connectedness of the world, the CGIAR is operating in a more open and complex work environment than ever before. All indications are that this openness will increase at an even faster rate than in the past decade. Maintaining a focus on delivering its mission to assist the poor of the world obtain food security while protecting

the physical environment is becoming even more than ever a challenge, despite the opportunities offered by the open operating environment.

Many views have been expressed on how the CGIAR should change to make the most of the changes. Some of the more formally expressed views are organized and presented here according to whether they pertain to factors *external* to the system or *internal*. Internal factors are categorized as relating to *governance, structure, management or IPR*. The factors presented are not attributed as many of them have been propounded by several sources. In general, views from Western Europe and the USA have been more openly and forcefully expressed than have those from other regions, including the developing countries and their NARS, suggesting that the developing country views are marginalized. In the recent e-mail conference, NARS views were in the minority although strong contributions referred to the need for the NARS and the regional agricultural research bodies to evolve along with the IARCs.

The centers recognize that their chief early partners, the NARS, remain the most important research partners. The NARS in developing countries are extremely heterogeneous and many changes have occurred to them over the recent decades. Many have developed strongly and some are very strong and competent now, especially in the larger countries such as China, India and Brazil. Others remain weak due to their small size, the effects of wars and poor or even worsening economic circumstances. NARS in developed countries, often called ARIs, have become more and more interested in research in developing countries as national public good research budgets have stagnated in many countries. Regional and sub-regional bodies such as APAARI and the formation of the Global Forum on Agricultural Research (GFAR) have added layers through which to aggregate interests into the international agricultural scene.

In addition to these changes in the public sector research agencies, the CGIAR has, over the last decade, been pursuing a much more diversified set of research partners as appropriate to the circumstances of its work. These partners include NGOs, development assistance projects, government policy agencies, and the private sector.

In the tables below, the views reproduced are essentially as expressed. They do not reflect CBC/CDC agreement or disagreement.

External Motivations:

#	Motivation
1.	Changes in the needs since CGIAR established so that the need to increase food production is not the only need for the poor in developing countries. The new needs of the poor encompass conservation of the environment, policies to improve equity of access and incentives for economic development, improved natural resource management and a new climate of agricultural, fisheries and forestry commercialization and privatization.
2.	Agendas for national development and development assistance priorities do not now give weight to agriculture or rural development.
3.	Development assistance and ODA agendas are changing and the centers must respond to and inform the changes.
4.	New development assistance approaches will require that the centers work in dynamic partnerships with public, private/business and civil society to achieve impact.

5.	Accountability and responsibility issues arise in complex partnerships. The capacities, priorities and competencies of NARS, ARIs and IARCS are all changing. Specifically, some NARS are becoming much stronger whereas others remain exceedingly weak.
6.	ODA funding declining and less specific funding is available for international agricultural research. As agriculture declines in importance in donor countries, many suffer an overcapacity in agriculture research in home countries and ARIs look to ODA and international opportunities as an alternative. This often leads to direct competition with the budget of the CGIAR centers and is changing the once close relationships with NARS.
7.	ODA funding for the CGIAR consists of more restricted funds and funds with greater uncertainty, especially in the long term.
8.	Development of the regional agricultural research bodies.
9.	Changing NARS developments, with strengthening of some and weakening or stagnation of others.
10.	Unclear role of the CGIAR in international agricultural research with the creation of GFAR, although GFAR role and Global Forum roles still need further definition.
11.	Donors interested in change and some have funded change programs of their own design in an external effort to effect change in the centers.
12.	Many donors, including the WB, need the knowledge and products of the CGIAR in developing their own programs but mechanisms not in place for linking the CGIAR with the development assistance agenda.
13.	New commercialization and IP climates require new management methods for conducting research and new adoption pathways and partners for the dissemination of its products.
14.	Although CGIAR must address the development assistance priorities, presently dominated by considerations of poverty, it should be careful not to dilute its efforts but rather stick to the agriculture (forestry and fisheries) fields in tackling poverty. This would play on its strengths.
15.	Major leaps in information and communication technology that greatly facilitates operations across sites, countries and among different partners
16.	Often difficult for the CGIAR to speak with a single voice on major global issues.
17.	Little science advocacy in the CGIAR, although this is the tool being used by the system to make its contribution to development.

Internal Motivations:Governance

#	Motivation
1.	Loss of co-sponsors (UNEP and potentially UNDP) is a major cause for concern and may potentially threaten the operational status of centers, e.g. through affecting their many headquarters and host country agreements. All efforts should be made to retain the co-sponsors.
2.	CGIAR processes seen by some as antiquated, fossilized and obsolete. The centers need to present to the world in a way that defies this image.
3.	System of priority setting, resource allocation and service delivery not functioning well. The system needs to adapt to the reality that the governance has changed in the last decade as the balance of resources, priority setting influences, etc have changed.
4.	The parts of the CGIAR must truly act as a system for an effective delivery of the mission. In particular, a premium should be put on activities and programs that are more effectively delivered in a systems mode rather than as independent activities.

5.	Current system is under significant strain. Authority and responsibility chains not clear to those inside and outside the system, leading to loss of capacity by the system to deal effectively with many issues and partners.
6.	The formal meetings of the system are highly ineffective and do not provide the forum for proper debate by centers and donors on the real issues. Too much time and resources are spent on stakeholders without a direct role to play.

Internal Motivations:Structure

#	Motivation
1.	The centers now cover too many programs and with tightening resources, especially unrestricted core resources, programs and/or centers will need to be cut or a major and urgent change in the <i>modus operandi</i> of the system is needed to cope with the future.
2.	The system's efforts are too fragmented and should be better structured to assist performance.
3.	The CGIAR secretariat is not effectively representing the centers.
4.	Flatter and leaner structures are required to be more cost-effective and to reduce transaction costs.
5.	There is extensive duplication of center offices in many countries and regions, making transactions with NARS more complicated and time consuming than necessary. On the other hand, the presence of many centers in the one country is often at the request of NARS and/or is welcomed by them. Streamlining of in-country and in-region transactions needs attention.

Internal Motivations:Management

#	Motivation
1.	Increasing numbers of programs, outputs and impacts require cross-center working and resource allocation. Some see this as a problems but this could also be viewed as a healthy sign that the CGIAR is responding to the integrated nature of many research problems it addresses. The challenge is to streamline and make more cost-effective the inter-center and partner collaborations.
2.	Centers need to be flexible and responsive while maintaining continuity, their corporate knowledge and learnings.
3.	Centers will need to rapidly implement the new CGIAR Vision and agenda.
4.	Centers and the system will need to handle a range of IPR issues in a rapidly changing environment.
5.	None of the centers is large enough to afford effective capacity to deal with intellectual property rights.
6.	The centers need more harmonized IPR policies to effectively deal with the issues impinging on the movement and use of agricultural, fisheries and forestry germplasm.
7.	Centers must become much more efficient and cost-effective.
8.	The centers will have to cope with the tensions between different parts of their business. For example, some research products such as new crops are entering an increasingly competitive and privatized world whereas NRM research and products

9.	require a culture of openness and collaboration.
10.	Centers and the system need to put more resources into long term planning.
11.	Programmatic planning, organization and delivery can be structured according to global, regional and central service activities. This structure then may or may not be reflected in center structures.
12.	Centers compete with each other in seeking resources from traditional donors. However, there are positive and negative aspects of competition. The centers need to cooperate better and ameliorate the negative aspects of competition.
	The centers, individually and collectively, cannot efficiently exploit advances in modern molecular biology (based on the common functions of genes across organisms) because genetics work is crop-focused and researchers work independently.

B. OBJECTIVES FOR CHANGE

To assist the CGIAR system, through its centers, to deliver its mission in a rapidly changing and dynamic world, the centers will seek:

1. To improve the effectiveness and efficiency of inter center collaboration through a logical and transparent mechanism to select, fund, and manage system-wide multi-center programs.
2. Streamlined partnerships and enhanced impact through improved and inclusive mechanisms for regional priority setting and programming.
3. Reduction of needless duplication and competition by providing incentives for collaboration. Mutual striving for high performance is doubtless healthy so some competitive spirit would still remain.
4. To increase the resources available to support program research by reducing administrative costs at the System. and Center levels. This would include horizontal (inter-center) and vertical (center-CG Secretariat) integration of public awareness, financial and human resource management, and other administrative services including new areas for collective action such as software standards and purchases.
5. To increase the level and reliability of funding for heartland activities of the agreed agenda of the system.
6. To improve the public projection and image of the CGIAR.
7. To increase the flexibility and adaptability of both the centers and of the system.
8. To improve the capacity of the centers to manage IP (perhaps through the creation of a legal entity owned by the centers).
9. To enhance our ability to attract the brightest minds and best partners in carrying out our mission.
10. To improve the efficiency, transparency and effectiveness of our business systems.

-
11. To improve the effectiveness of the centers and the system as partners in international agricultural research with NARS, ARIs and the private sector and to more effectively leverage the resources provided through these partnerships.
 12. To reduce the financial and other transaction costs involved in working with the centers and the system by clearly identifying and communicating leadership responsibilities and entry points for different types of research and related activities.

C. SYSTEM GOVERNANCE, STRUCTURE AND MANAGEMENT

The preceding sections in this item have described the main motivations for change in the way the system operates and, arising from these, the main objectives for organizational change as considered by the centers.

With the exception of the 1998 Strong system review which recommended a new corporate system for the CGIAR (one board, one CEO), most debates on the CGIAR have been more concerned with the number and structure of the centers and how they should be configured, or even whether the centers should exist or needed to exist. The present paper looks mainly at models for the whole system and treats center arrangements as a secondary feature. As shall be seen in the following analysis, the power over restructuring the centers rests in very different hands depending on which system organization model is adopted.

Since the centers are the organs of the system that perform the work to achieve the mission, it is in the interests of the system and the centers to 'get it right'. Further, the centers' considerations are driven by the following:

1. **Changes in financial and partner dependencies:** The centers in the system have undergone fundamental changes in their financial and research partner dependencies over the last decade. For finance, the percentage of unrestricted core contributions from the members fell from 68% in 1992 (including complementary funds) to 61% in 1998. However, in 1998, only 43% of funds were fully unrestricted and 18% were partially restricted. The number of core donors, especially the number of developing country donors, grew. In 1990, the CGIAR had 37 core donors compared to 54 in 1998. There were also modest increase in the amount of funds coming from non-CGIAR members (2.7% in 1990 to 3.5% in 1998, and the 1998 total budget was larger). Support to the centers therefore depends less now on the program and funding decisions made by TAC and the Group members although it is difficult to quantify dependence on the relationships forged at the Consultative Group table. Decision-making by the centers is evolving to be less subject to the hierarchical processes of the Group and TAC and more by the development assistance and research funding 'marketplace'¹³. The range and number of research partners has grown remarkably as centers operate in a world of greater complexity of demands and needs for their work.

¹³ Pugh and Hickson 1989 referring to their own organizational studies and those of O.E. Williamson. D.S. Pugh and D.J. Hickson: "Writers on Organizations", Penguin, 201pp.

2. **An open, complex system:** Most of the factors described in A above (Motivations for Change) indicate trends towards a much more open and complex system than previously¹⁴. The governance, structure and management of the CGIAR system will have to change to assertively and actively position the system to perform well in such an environment.
3. **No single solution:** No single and simple recipe exists to guide the CGIAR. The centers are aware that the future path of the system will require frequent readjustments to continue to achieve top performance in the delivery of its vital but changing mission.

In order to recommend changes, we must understand the present structure and functioning of the CGIAR system and canvass possible alternatives. The present structure is shown in the diagram in Appendix 1. The functions of the system and the system elements responsible are listed in Table 1:

Table 1: CGIAR system functions and responsible parts of the system:

<i>System Function</i>	<i>Responsible Part of System</i>
Formulation and assessment of needs, ideas, programs, opinions	Co-sponsors, Centers, TAC, donors/members, partners, new science and other world developments.
Aggregation of interests: formulation of inputs, strategy development, partnership formation	Centers, partner fora, CGIAR advisory and partnership committees
Articulation of options	CGIAR members, donors, Finance Committee, centers
Policy dialogue, liaison with other policy fora (water, environment, biodiversity, population, etc)	Cosponsors, CGIAR members, centers (Note: weakly developed at the system level in many critical fora.)
Policy making, program priority setting, resource allocation	CGIAR members, donors, Finance Committee
Policies, program design	TAC, CGIAR members, centers
Management policies	Centers
Implementation of policies and programs, including resource mobilization	Centers, partners
Oversight: feedback, evaluation, efficiency control, impact assessment	TAC, Oversight Committee, donors, centers
Communication, public awareness, public relations	Centers, Secretariat, Future Harvest
Liaison with cosponsors, donors	Centers, Secretariat

The functions listed above are carried out individually by the various standing organs of the system (the centers and the secretariat) and through meetings of the committees and fora such as the two full meetings of the system (mid term meeting and international centers week).

10 different types of organizational structures were canvassed, namely the present system, a unitary corporation, a multidivisional corporation, holding company, franchise, federation, network, strategic alliance, virtual organization and foundation. Descriptions of each of the 9 organizational types are given in Appendix 4 and important characteristics of each are described. Note that a strategic alliance may describe a range of relationships among partners from technology licensing through to joint programs/projects work to a full joint venture over core business¹⁵.

¹⁴ H. Sherman and R. Schulz (1998) "Open Boundaries: creating business innovation through complexity", Sante Fe Center for Emergent Strategies, 232 pp.

¹⁵ Bleeke, J. and D. Ernst (Eds) 1993. "Collaborate to Compete: using strategic alliances and acquisitions in the global marketplace". Wiley New York, 284pp.

In addition, governance and structure was briefly reviewed for a number of complex international organizations in addition to the CGIAR (Red Cross, CARE, Oxfam, WWF and Greenpeace). All of these organizations differ from the CGIAR centers in that they are not research agencies and they are supported by large numbers (often millions) of member donations in addition to project funds, which often from the same donors as those for the CGIAR centers.

Based on the change objectives given in B above, each organization type is tested against its expected ability to help the system achieve the objectives (H/M/L) (note that this uses an earlier version of the objectives).

Table 2: Assessment of each organization model against criteria derived from the objectives

Criterion	CGIAR	Corporation	Holding company	Franchise	Federation	Network	Strategic Alliance	Virtual organization	Foundation(s)
1. To improve the quality and effectiveness of external research partnerships.	H	M	M	H	H	H	M	M	M
2. To improve the effectiveness and efficiency of inter center collaboration.	M	H	H	M	M	M	H	H	M
3. To enhance the level of current system level services.	L	H	H	H	H	H	M	M	H
4. To increase the level and reliability of funding.	M	?	?	?	?	?	?	?	?
5. To improve the public projection and image of the CGIAR.	M	H	H	M	H	M	L	L	H
6. To increase the flexibility and adaptability of both the centers and of the system.	M	L	L	L	H	H	H	H	M
7. To improve the capacity of the centers to manage IP.	L	H	H	M	M-H	M	M	L-M	M
8. To enhance our ability to attract the brightest minds and best partners.	M	M	M	M	H	M	M	M	M
9. To improve the efficiency, transparency and effectiveness of our business systems.	M	H	H	H	H	M	L	L	H
10. To improve the CGIAR's voice in the development and related debates.	L	H	H	L	H	M	L-M	L-M	H
<i>Degree of disruption to achieve new structure (here, H is a negative score)</i>	L	H	H	H	M	M	M	H	H

DISCUSSION

There is no perfect organizational model for the CGIAR system or even an optimal state. Major and minor adjustments to the system, in recognition of the changing world of its operations, will be required constantly to keep it relevant and vital for its mission.

From the above analysis, we see that any option other than the CGIAR requires a legal identity at the center and ownership of this by the member units. The main options for the CGIAR appear to be the corporate/holding company and a federation¹⁶. However, there are some attractions also in the option of a CGIAR-like organization that makes major changes to address the shortcomings such as improving center coordination and services to the centers, the lack of voice in global debates and the capacity to manage IPR. Forms such as strategic alliances and virtual organizations are too freeform for considering for the whole program of the CGIAR but will likely be used more and more for addressing specific areas of work, as indeed is already happening. These forms will be dynamic over time as needs change.

For the management of IPRs, Blakeney preferred one of the corporate models because of their well established legal and institutional forms. Partnership models have to be created and purpose designed and, in Blakeney's view, may be more fragile. Legally, partnerships are differently defined in different legal jurisdictions.

However, the corporation models are more 'top down', concentrating power at the top and running the risk of losing or deliberating factoring out minority elements of the system. This is counter the trend towards greater participation and openness in the CGIAR system and could alienate many critical partners. The centers place a premium on being driven by information from the bottom, especially the needs of partners. Today, private sector companies often spend considerable effort trying to overcome the effects of central control through more decentralization, methods for obtaining information and feedback from the units on the ground and restructuring into smaller business units. Holding companies may be somewhat less strongly centralized and would allow more diversity of form among the units.

If the CGIAR were to create a corporate structure, the likely first steps would be a strong centralization trend to firmly form the corporate entity. This stage would take years. It would then need to recreate a decentralized form.

The federation model appears to offer the opportunity for dynamic and even healthy tension between the functions of the federal center and the federated units. The units would be responsible for paying most of the costs of the center. Center boards would oversee the centers as the main units of the system. The CEOs of the centers would largely compose the board of the central coordinating unit. Rules would need to be formulated for the central body and the roles of members in federal governance. A small number of experts would be added to form the full board. The federation would be a legal entity with concomitant responsibilities.

The Consultative Group itself would be likely to be transformed into a consultative forum for science and development debate, as well as providing a marketplace for the centers

¹⁶ The system may wish to formally call itself something more or less synonymous with 'federation' such as 'coalition', 'league', 'alliance' or 'union'.

and their partners. This is quite analogous to the roles of most Consultative Groups in World Bank terms. All efforts should be made to expand the number of members of the Consultative Group but it would be expected that not all would take the time to attend the annual meetings. All would have the right to do so, and would be encouraged to.

Through the Consultative Group or through more direct bilateral or regional relationships, much stronger and more varied strategic alliances must be forged with key members, such as the World Bank, Japan, USAID, EC and non-OECD member donors. The system has a middle order number of donors. It has too many for full bilateral relations among all the parties, but not sufficient to form large (statistically) blocks of interest groups. We should think creatively of how best to organize the many possible relationships between the research providers (the centers) and the donors. Stakeholder consultation could be provided in a number of ways and at various levels from the project/program, to center to system level, as indeed it is at present. A more effective system level forum would be required than at present, and it is suggested that this could be formed by aggregation up the center level stakeholder representatives, such as NARS, NGO, science agency and private sector Board members, rather than creating a fairly detached set of completely separate stakeholder committees.

The centers would adhere to a major code of conduct and code of practice, which would build on but go well beyond the present draft codes in its scope. They would undertake a major early exercise in looking for economies of scale and gains in efficiency and effectiveness through sharing of policies, management operational systems and practices. By yielding some autonomy on their processes, the centers should gain greater freedom to focus their attentions on their relative work program strengths/

A draft set of responsibilities for the coordinating federal unit could be:

- Support for the Consultative Group chair and the federation board chair;
- Carrying certain IPR services for the system, under its legal character. Note, however, that other IPR could be spun off in appropriate technology start-up, profit and non-profit, concerned with disseminating the products of the centers work according to the dictates of the system's mission;
- Public awareness, science advocacy;
- Assistance with resource mobilization;
- Agreed central services to the centers, balanced with outsourced functions and center-delivered ones. The services that should be considered are IT, payroll (AIARC), gender and diversity program and selected other HR services, requested support to system wide programs and activities, support to coordinating donor interests to key programs.
- Establishing and coordinating efficient planning, strategy and evaluation mechanisms.

Much has been written about the structural and governance implications of IPR management for germplasm holdings and biotechnology innovations. Almost no attention, however, has been given to the structural and governance implications of research for integrated natural resource management (INRM). INRM research would appear to dictate open, flexible and highly adaptable arrangements, given its dispersed nature and great multiplicity of partners of different types. On the question of governance, the recent INRM workshop in Penang (21-25 August 2000) made a clear

case to the CGIAR that center organization, governance and management be targeted to create the culture of a democratic, adaptive learning organization.

Implicit in the above discussion is the implication that changes to the actual structure of the centers is an issue to be left to the centers themselves. Whatever organization of the system emerges from the present exercise will dictate the loci of power in the renewed system and the incentives for any form of careful rationalization among the centers. Such 'rationalization' can take the form of codified ethical codes without structural change, or mutually agreed and implemented mergers and acquisitions among the centers or between the centers and any affiliated centers.

A final observation on structure arises from a recent article in *Nature* on the robustness and vulnerability of networks, with particular application to the Internet and the World Wide Web but probably more general application to complex networks^{17 18}. It appears that many complex systems consist of some relatively few nodes which have many links whereas most nodes have only a few links. In the world agricultural research system, the CGIAR centers would surely be high among the well connected nodes (e.g. ICLARM has about 190 formal partner institutes listed in its 2000 Operational Plan and thousands of individual people among its research and information networks). Such systems are relatively robust to random loss of quite a large number of random individual connections between nodes (research centers). However, the most effective way to attack and disable such a network is to selectively attack its most highly connected nodes. With only 4% of the most connected nodes destroyed, the network is effectively crippled. This raises the question of whether serious denigration in the performance of CGIAR centers would unwittingly seriously endanger the stability of the whole international agricultural research effort for development?

RECOMMENDED CDC/CBC ACTION:

The CDC/CBC Retreat is recommended to take the following steps to reach a position on new governance, structure and management options:

1. Refine and sharpen up the key motivations for change.
2. Agree the objectives for change.
3. Agree one or more (but as few as possible) options for a new organizational form for the CGIAR.
4. Develop a clear and compelling description for the preferred option(s) and describe how this will meet the objectives agreed in 2.

¹⁷ Tu, Yuhai 2000. How robust is the Internet? *Nature* 406:353-354.

¹⁸ Albert, R., Jeong, H., and Barabasi, A.L. 2000. Error and attach tolerance of complex networks. *Nature* 406:378-382.

APPENDIX 1: CGIAR SYSTEM DIAGRAMS

(This is the systems diagram drawn by ICLARM – pls advise Meryl Williams if you would like a faxed copy)

**APPENDIX 2: REFERENCES AND SOURCE MATERIALS FOR DIAGNOSIS OF
MOTIVATIONS FOR CHANGE:**

- CDC recent meetings;
- K. Winkel (Danida) (1999) on behalf of EIARD;
- R. Herdt (RF), MTM 2000H;
- H. Zandstra (CIP) Aug. 2000,
- J.Hardie (IDRC), 2000;
- Oversight Committee (MTM 2000);
- Ian Johnson (CGIAR chair), July 2000;
- System Review '98;
- TAC Vision and Strategy documents;
- CGIAR 2010 e-mail conferences (first and second set, 1999, 2000)

APPENDIX 3: GOVERNANCE AND STRUCTURE IN OTHER ORGANIZATIONS

The following is a summary of the organizational and structural descriptions of a selection of international, non-profit organizations. The material summarized here is drawn, often verbatim, from the websites of the organizations. Given the complex nature of the organizations, there are some minor inconsistencies in the descriptions of each from the given material, although these inconsistencies may be removed by reference to formal documents. Irrespective of structure and governance arrangements, each organization or system, is united by a common mission, goal and mode of operating. All seek strength, reach and sharing of knowledge, information and reputation through synergies among the parts of the system.

CGIAR:

The CGIAR is variously described as an 'informal association' and a 'network'

'The CGIAR, established in 1971, is an informal association of fifty-eight public and private sector members that supports a network of sixteen international agricultural research centers.' [Noted: this should rather indicate that the members support programs implemented by the centers.]

'The CGIAR system is a network that consists of the Consultative Group (the Chairman, Cosponsors, and other members), CGIAR committees (standing, advisory, impact evaluation, partnership, and ad hoc), international agricultural research centers and center committees, and a central service unit, the CGIAR Secretariat.'

Red Cross:

The International Federation of the Red Cross and Red Crescent Societies developed from the former League of Red Cross agencies. The Federation comprises the collectivity of National Societies, International Federation Governance and the Secretariat. In the Federation Constitution, the National Societies define the range of activities within which the International Federation operates. The Secretariat is responsible for the day-to-day running of the Federation. The decisions on Federation direction and policy are made by the governing bodies. These bodies define a framework of purpose, policies, goals and programs, and provide a mechanism for accountability and compliance.

The General Assembly is the highest decision-making body of the Federation. It meets every 2 years and comprises representatives from all member National Societies.

A Governing Board acts between general assemblies, meeting twice a year with the authority to make certain decisions. The Board comprises the Federation's President and vice presidents, representative from elected member societies and the chairman of the Finance Commission.

The General Assembly is responsible for appointing the Secretary General, who is the chief executive officer of the Federation, directing the Secretariat and its delegations.

The Federation has recently developed its Strategy 2010. The strategy provides a planning framework for International Federation Bodies, for National Societies acting individually, National Societies acting collectively and for the International Federation Secretariat.

Oxfam:

'Oxfam International is an international group of independent non-government organizations dedicated to fighting poverty and related injustice around the world. The Oxfams work together internationally to achieve greater impact by their collective efforts.'

The Oxfam International Board consists of the Chair (or Board delegate) and the Executive Director of each of the of the Oxfams. It meets annually to approve the Oxfam International Plan and budget. The Oxfam Council of Executive Directors meets twice a year to prepare the Plan and budget. Oxfam International's purpose is to (1) further the Oxfams' common goals; (2) promote, assist and coordinate collaboration among the Oxfams where this will result in a greater impact of the sum total of their joint efforts; and (3) protect the Oxfam name and enhance its standing.

CARE:

The CARE system consists of CARE International (CI) and its member organizations. CI appears to be a central coordinating unit. CARE USA describes itself as a member of 'CARE International, a confederation of 10 agencies'.

'CARE International is a philanthropic association of ten national member organizations. It exists to promote coordination between the ten members and to assist them in the pursuance of their aims.'

'The members are autonomous organizations, each established in accordance with the laws of its own country. They share, however, the aims of combating hunger, sickness and poverty, of providing emergency relief, and of contributing to ecologically sustainable social and economic development in developing countries and other areas of need.'

'The CI Board of Directors consists of the two Directors appointed by each national CARE, complemented by up to three Public Directors. The maximum number of Directors is thus at present twenty-three.'

'The day to day work of the CI Board is conducted by the CI Secretariat, based in Brussels. The Secretariat is headed by the Secretary General, who is supported by a Deputy Secretary General and administrative staff. Under the general supervision and control of the Board, and of the President between meetings of the Board, the Secretary General is in charge of all the ordinary operations of CI. The Secretary General is also responsible for the Brussels-based European Union Coordination Unit and the Geneva-based Multilateral Liaison Coordinator.'

'The European Union Coordination Unit is the primary channel of communication between CARE members and the EU.'

'The Multilateral Liaison Coordinator is tasked with the responsibility to maintain regular contacts with the Geneva- and Rome-based multilateral agencies and representational bodies – including UNHCR, WFP, Red Cross and to represent CARE in the general humanitarian debate.'

'The Secretary General reports directly to the CI Board and its Executive Committee.'

Worldwide Fund for Nature (WWF):

WWF describes itself as a 'global network', with 4.7 million supporters. The network consists of 29 national offices, 11 program offices and 4 associated offices. The governance structure was not visible from the website of WWF International.

Greenpeace:

Greenpeace, which receives most of its financial support from 2.5 million individual member contributions, appears to have a complex structure. The structure combines some elements of franchising (licensed national and regional offices), some of a network governed partly by the representatives of the office boards, and partly of a holding company with a top board.

'The Greenpeace organization consists of Greenpeace International (Stitching Greenpeace Council) in Amsterdam and Greenpeace offices around the world. Greenpeace currently has a presence in 41 countries. Greenpeace national or regional offices are licensed to use the name Greenpeace. Each office is governed by a board which appoints a representative (called a trustee). Trustees meet once a year to agree on the long-term strategy of the organization, to make necessary changes to the governance structure, to set a ceiling on spending for Greenpeace International's budget and to elect the International Board. Greenpeace International monitors the performance of Greenpeace offices.'

'The International Board approves the annual budget of Greenpeace International and its audited accounts. It also appoints and supervises the International Executive Director, who, together with senior managers, and consulting widely with national office staff, leads the organization.'

APPENDIX 4: ORGANIZATIONAL OPTIONS AND THEIR CHARACTERISTICS

	CGIAR	Unitary Corporation ¹	Multi-divisional corporation	Holding company	Franchise ²	Federation ³	Network	Strategic Alliance ⁴	Virtual organization	Foundation
Legal status	Centers are legal international organizations, or nationally registered legal entities in HQ host countries. Group has no legal status. Secretariat is legally part of the World Bank.	Registered company, standard, well recognized legal forms	Registered company, standard, well recognized legal forms	Registered company, standard, well recognized legal forms	Franchiser (brand-owner) and franchisees are separate legal entities bound by contractual law	The central coordinating unit and each individual unit are separate legal entities	Each unit is a legal entity; central coordinating unit is a legal entity that may or may not be fully owned by the units	Member organizations are separate entities; the whole may be covered by legally binding agreements or formal MOUs	Variable – may be clearly defined or loosely agreed by continuing participants.	Registered under the laws of hosting countries. May be non-stock, non-profit, philanthropic etc
Property owners	The centers self-owned. Central service units (secretariats, etc.) owned by the cosponsors.	Shareholders, with directors as their delegates	Shareholders, with directors as their delegates	Shareholders, with directors as their delegates	Franchiser (the brand, procedures etc) and franchisees (local operations) separately	Individual units. Resources may be re-allocated or shared, by prior agreement	Individual units. Coordinating unit may be co-owned by the network member units.	Individual units, some shared intellectual property	Diffuse ownership among individual units.	The establishers.
Roles of non-member stakeholder	Consulted on policies, programs, clients	Indirect, market forces	Indirect, market forces	Indirect, market forces	Indirect, market forces	Indirect	Varies, but largely indirect	Varies, but largely indirect	Varies widely	Indirect, may include consultation

¹ Oliver E. Williamson and Narottam Bhargava, 'Assessing and classifying the internal structure and control apparatus of the modern corporation'. In Keith Cowling, ed., *Market structure and corporate behaviour: Theory and empirical analysis of the firm*, London: Gray-Mills, 1972.

² Howard Sherman and Ron Schultz, *Open boundaries: Creating business innovation through complexity*, Reading, Mass.: Perseus, 1998.

³ Charles Handy, *Understanding organizations*, Penguin, 1976.

⁴ Joel Bleeke and David Ernst, eds., *Collaborating to compete: Using strategic alliances and acquisitions in the global workplace*, Wiley, 1993.

Governance and internal control	Complex consultative, policy and program making superstructure (autonomous centers + boards of directors, interlocking committees, partnership committees) plus independent donors and the secretariat.	Direct top-down control by central authority (Directors and through CEO)	Relies on formal and informal rules; top-down control is diffused slightly	Limited whole system control from the holding company board +/- individual company boards and CEOs as negotiated	Top-down whole system control by the franchiser. Franchisee expected to feed back market and field intelligence.	Formal rules for the federation set and implemented by peak body, representative of members; members are self-governing	Network governed by a board (determined and often representing the member units). Member units are self-governing	Alliance control is determined through consultation and consensus among the partners; governance within a unit depends on that unit plus acceptance by other units.	Only by each member adhering to consensus and mutual regard for authority.	Direct top-down control by the governing board.
Authority	Distributed widely among elements of the system and stakeholders outside the system, including partners and non-member donors.	Concentrated in the central unit (directors + CEO)	Concentrated in the central unit and division chiefs.	Spread among the central (holding) unit and the peak unit of each subsidiary	Brand control enforced by franchiser.	Dispersed among the equal units, with some authority vested in the central coordinating unit.	Dispersed among the network members	Dispersed among the participating units	Dispersed authority	Concentrated in the central unit (board)
Strategic planners	Center Boards, Center DGs, CG Secretariat	Board of Directors (owner delegates)	Directors + CEO	Directors of central unit & directors + CEOs of subsidiaries	Brand-owner only	Directors of central unit & Directors + CEOs of sub-units	Secretariat of network, & directors + CEOs of sub-units	All alliance partners	All participants, although some more authoritative	The board of directors
Routine planners	Center DGs	CEO, central unit	CEO + division heads	CEOs of subsidiaries	Franchisees, following rules set by franchiser	CEOs of sub-units	CEOs of sub-units	Individual alliance partners, coordinated	All participants	Board + executive officers
Access for new ideas	Wide range of access points	Easy access only at peak	Small range of access points at upper levels	Wide range of access points, some better than others	Brand owner mainly. Franchisees may suggest.	Wide range of access points, some better than others	Wide range of access points, some ineffective	Many access points	Many: each participant is an access point	Easy access at the peak, but other access exists
Structures (of units)	Determined by the Group, donors, centers	Determined by the directors and CEO	Determined by the directors, CEO and division chiefs	Determined by the holding unit and the subsidiaries	Largely determined by the franchiser	Determined by the individual units, modeled after an ideal	Determined by the individual units	Determined by the units	Not relevant.	Determined by the board

Unit responsibilities	Centers have autonomy within the limits of CGIAR policy and enabling donor, partner resourcing	Determined by central unit (ie CEO)	Determined by CEO + division chiefs	Determined by the directors and CEOs of subsidiaries	Determined by the franchiser and defined in contractual law.	Autonomous individual units (including the central unit); defined in constitution.	Autonomous individual units; defined in agreement.	Autonomous individual units; defined in the alliance arrangements.	Dynamically set by autonomous individual units with overriding consensus	Determined by the board.
	CGIAR	Unitary Corporation	Multi-divisional corporation	Holding company	Franchise	Federation	Network	Strategic Alliance	Virtual organization	Foundation