

**Meta-Evaluation of
CGIAR External Program and Management Reviews
(EPMRs)**

**Submitted to the Science Council of the CGIAR
and to the CGIAR Secretariat**

by:

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Foreword

The review team appreciates the opportunity created by this meta-review of 11 External Program and Management Reviews (EPMRs) to reconfirm and highlight the role and value of the EPMR process in the CGIAR System.

The request to look across the 11 EPMRs to identify issues of system-level significance permitted us to look at contingent activities and trends within the System itself, including the evolution of other evaluation mechanisms, the alignment of priority setting, and an increased appetite for partnership and collaboration.

In elevating an issue to “system-level significance,” we have focused in issues where: 1) there might be economies of scale if treated at a higher level, 2) incentives for spontaneous solutions to arise are poor or lacking, 3) mechanisms in existence within the System could be viewed as weak or poorly supported, or 4) interpretations differ on how to achieve the System’s goals.

A meta-evaluation should be evidence-based. The unit of analysis for this evaluation is the 11 EPMRs plus additional information solicited from center directors, panel chairs and several donor representatives. The inclusion of interviews with a cross-section of the principal players in the review process helped the review team gain insights into areas of the meta-evaluation not informed by the EPMR reports themselves, principally how the review process might be strengthened and streamline, and how the reviews are used by centers and donors.

In organizing our findings, we took a page from the “special issues” given to EPMR panels as part of their charge. These often pose “polarizing” questions that help draw attention to on an issue. We have tried to do something similar in pulling issues into the foreground of the report. In this manner, we hope to provoke additional discussion and insight.

Our work on the project benefited from assistance and support from many quarters. We are particularly grateful to Ruben Echeverria, executive director, Science Council, Manuel Lantin, science advisor, and Namita Datta, chief-governance advisory, CG Secretariat, and Annabelle Waruhuiu, based at the Science Council Secretariat, who provided the documentation and key summaries at the heart of the project.

In the light of what we have learned through this meta-evaluation, we have no hesitation in stating our conviction that the CGIAR could not be a “system” without a mechanism like the External Program and Management Review.

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META-EVALUATION OF CENTER EPMRs

Executive Summary

The meta-evaluation capitalizes on the opportunity to review EPMRs conducted for 11 of the 15 CG centers within a relatively compressed time frame (2003-2006)—a dynamic interval in the programmatic work of the centers as well as in their governance and management. During this period, the centers contended with leadership transitions, increased internal and external expectations for transparency and accountability, changes in the funding environment, changes in the approaches to research, a range of new collaborations and partnerships, and the fine tuning of strategy and priority setting.

EPMRs	Submission Date
ICRISAT, IPGRI	2003
IRRI	2004
IFPRI, CIMMYT,	2005
ILRI, IWMI, ICARDA, WorldFish, CIFOR, ICRAF	2006

The period was also marked by significant changes in the System. Structural changes in the CGIAR have reformed decision making in the System, creating defined roles for an Executive Committee, Science Council and the CG Secretariat. System-wide planning and priority setting have established a framework for the stronger alignment of resources and results. Evaluation and accountability mechanisms have been refined providing greater clarity of results and enabling comparisons in performance across centers and programs. The introduction of a performance measuring system, greater rigor in the preparation of MTPs, the growing importance of CCERs, and improvements to the EPMR process (including rigorous follow up to the recommendations) creates an increasingly compatible and mutually reinforcing set of tools and processes for planning and evaluation.

Using the reports for each of the EPMRs as the unit of evaluation, the reviewers were asked to:

- Identify common program, governance, management and finance issues that have system-level significance
- Derive lessons (from the reports and commentaries) that have system-wide implications
- Report on the quality, content and comparability of the EPMRs including issues that the reviewers find should have been covered by the panels and where it finds a high degree of variability across the reviews

- Assess the process used to conduct the EPMRs and follow up of the EPMR recommendations, especially with a view to streamline the process and make it more effective and efficient

An additional issue—the extent to which EPMRs can minimize the number of separate donor-related evaluations that centers must also accommodate—was also explored.

From the analysis of the reviews, complemented by discussions with a cross-section of directors general, board chairs, panel chairs and donors, the reviewers were able to identify issues of framework, process and content that can be characterized as system-wide as well as a number of issues the reviewers felt were of emerging significance for the System and future EPMRs.

KEY FINDINGS

The following highlights and summarizes significant findings coming out of the review:

1. The role of the EPMR

- a. There would not be “system” in the absence of the EPMR. The question is not whether the System can afford the EPMR but the counterfactual: could it afford not to have them?
- b. The EPMR cannot be just an “audit of audits.” Its integrative and holistic view of the center gives it a strategic function.
- c. An EPMR can commend as well as recommend providing assurance to investors that their support is productive.
- d. The EPMR will become increasing important in the more complex operating environment with Challenge Programs, sub-regional organizations, and non-CG funding sources. It reaffirms the central role that centers play as the organizations that must sustain the infrastructure and a critical mass of scientific research that can be deployed effectively directly or in collaboration with other actors. The lines of accountability need to be worked and the center EPMR will have to evaluate the effectiveness of the relationships. The complexity will likely increase the need for CCERs that are able to examine the relationships in detail.

2. The burden of evaluation and value of an integrated evaluation system

- a. Separate donor evaluations are inevitable, and do not substitute for EPMRs. They are usually more focused, partial in their perspective and meet a time-bound need for the donor’s own purposes. They are also in the view of one interviewee “an effective, but under-appreciated mechanism in the CGIAR for maintaining the quality and focus of science in the centers.”
- b. An integrated system of evaluation is evolving which includes: Medium Term Plans, Performance Monitoring, Center Commissioned External Reviews, and EPMRs. Each of these operates at its own level and is useful as a management instrument. Increasing rigor in using these

instruments will lower the overall cost of evaluation while improving performance

- c. There is evidence that the PMS is improving the rigor of the MTP logframes and the description of output targets and outcomes. This clarity will facilitate the task of future EPMRs and is useful to the Centers. The incentive for this improvement is that portion of the World Bank contribution (50%) that is based on a set of agreed performance indicators relating to program outcomes, management and governance. Quite apart from the Bank's "reward" there is the "pressure for all Centers to be above average". The review team feels that the System would be strengthened if the PMS included indicators that reward significant initiatives that improve the coherence of the System as a whole. This system-level concern would be even more important if some other donors begin to base contributions on the PMS indicators.

3. The clients for EPMRs

- a. The immediate users of the EPMRs are 1) the center itself, 2) the Science Council (which provides a peer review and commentary on the review and its recommendations), and 3) donors and other stakeholders through ExCo.
- b. For most donors, the EPMR is a thinly contextualized document, providing a snapshot of a particular interval in a particular center's history. Only a few donors have the benefit of staff with a long-term relationship to the System who possess the perspective and institutional memory to view EPMRs as part of the moving image of a center and the System's evolution.
- c. Donors are primarily interested in the alignment of individual centers with their own directions and priorities. Individual donor decisions are not heavily swayed by the results of an individual EPMR sometimes to the chagrin of the centers with a healthy review hoping to receive an increase in funding.

4. The Center as User

- a. Increasingly, the board and management response to the EPMR recommendations is immediate and "pre-emptive implementation" of recommendations takes place before the center EPMR is discussed at AGM.
- b. Regular review on a five-year basis is the ideal norm; however, the EPMR may also be scheduled so that it has a deliberately beneficial impact on a center: 1) as an input to DG succession, 2) as an input to a new strategic plan, 3) as identification of early action issues for an incoming administration.
- c. EPMRs that identify or come at the peak of a crisis can be transformational.

5. Approach to Science Quality

- a. EPMRs have worked with rough indicators for many years in order to have some "evidence-based" conclusions. Panels have resorted to a mixture of input and output measures in order to do so. Table 2.1

aggregates the many input measures that EPMRs have used as “contributors to science quality,” (e.g., quality of research staff, adequacy of infrastructure and research support) and various output measures, particularly that of refereed publication, as the “universal” (and much debated) comparator.

- b. CCERs are a consistent starting point for assessing science quality, but are found by panels to cover too few programs and to be of uneven quality.
- c. The indicators that comprise the new Performance Measurement System, introduced as part of a mechanism for the allocation of World Bank contributions, provide a strong incentive for measuring and documenting performance and promise to have a positive impact on panel evaluations of science quality.

6. Program Analysis at the Center-specific Level

- a. Many issues are reviewed from a center-centric view. The recommendations that emerge are appropriate only if a problem can be solved at that level; implementation may depend on higher level policies, the discretionary power of donors or partners to participate, or the investment of resources beyond the scope of the center.
- b. Panels are necessarily cautious about going beyond their terms of reference (even where they know issues exist) for fear of diverting attention from key recommendations at the center level and diminishing the effectiveness of the review if people seize on the extra issues to impeach the review itself.

7. Addressing system-level issues

- a. A system-level issue arises where there is potential for gain through exploiting unrealized economies of scale, fixing market failure, creating incentives for voluntary cooperation among centers and ensuring adequate funding of the creation of System Public Goods and International Public Goods.
- b. System-level issues remain in
 - Determining where a center should operate on the research-to-development continuum
 - The role of partnerships in carrying out research and how this relates to NARS, NGOs, regional organizations and ARIs
 - Evaluating policy-oriented research in the System
 - Identifying IPGs in integrated natural resources management
 - Alignment of centers: System priorities, structures, with other actors
- c. System reform is in the background of every review. The System has evolved a myriad of mechanisms that contribute to its more effective functioning as a system. Panels have usually commented on the effectiveness of MOUs, COPs, SWEPs as instruments over which centers have some control. Since their advice on how this fits into the larger picture is partial and sometimes unwelcome it is usually foregone.

8. Planning and managing the research program

- a. The System Priorities comprehensively allow a center to carry out research activities that map into a given cell or, more likely a combination of cells. There is no *a priori* allocation of resources at the System level that assigns priority or resources to particular priorities against which center choices can be judged for thematic, scientific or regional priority.
- b. Centers have adapted known tools and processes for strategic planning and priority setting. Panel commentary on this standard TOR are usually standard responses calling for better focus and, depending on the mix of quantification, modeling or process, call for more or less of some part of the process.
- c. There is a weakness in “business planning” which links clear priorities to resource allocation and resource mobilization. Business planning is a technique that is common in private research and parastatals but one which the System needs to promote at the center level.
- d. Impact analysis has benefited from decades of advances in commodity research but is still a challenge in policy and socio-economic research and natural resources management. System-level working groups have been making progress and efforts need to be continued.

9. A systems approach to managing complex interactions

- a. The nature of a center’s outputs, the partnerships that are established and the position of the center on the research for development continuum are simultaneously determined. The point of reference for centers needs to be the System goals and priorities (which are premised on meeting the MDGs), not other competing statements.
- b. Recent EPMRs have been moving in the direction of recommend an innovations systems approach as a useful framework for analyzing the various choices a center must make among upstream and downstream partnerships, capacity building in support of IPG research and uptake, and how to ensure IPG production in decentralized research programs.
- c. In an environment in which resources are increasingly mobilized at the project level, the CGIAR cannot determine unilaterally where it operates on the research for development continuum. However, the CGIAR should develop a set of principles and guidelines that centers can use in negotiating their place on the continuum (including the production of IPGs).
- d. The tools for research planning and management join up with the issues of center management and governance as the System becomes more decentralized and Program-driven. Given the pervasiveness of this issue it is one that calls for leadership at the System level.

10. Management and Finance

- a. Management structures are evolving to reflect the framework of newer strategic plans and a more multidisciplinary and collaborative approach to projects and activities. Implementing these structures requires new skill sets on the part of managers, increased flexibility on the part of research staff, and up-to-date HR practices.

- b. The evolving management structures also challenge EPMR panels who grapple with these structures and their consequences from a perspective that may be outdated or unworkable for the centers involved.
- c. Financial management systems and staff capacity to provide sound financial management have benefited from a system-wide focus on best practices and the availability of common technology platforms and shared service units. Audit and risk management, in particular, show increasing sophistication and uniformity in performance.
- d. The impact of restricted funding on planning, priority setting and resource allocation have not been fully absorbed and are not fully managed. The centers do not have in place the organizational culture or the analytical tools to navigate a permanent feature of their financial and programmatic life effectively.
- e. EPMRs more regularly suggest that centers adopt adjunct planning activities that reflect the increasing importance of anticipating and managing for change. These include strategic staffing plans, business plans, long-range financial analysis and projections, and succession planning for both management and boards.

11. Governance

- a. Over the four-year period represented by the EPMRs in the study, both the governance of the centers and the manner in which governance was evaluated were transformed. Center boards initiated a range of changes to practice, encouraged by the System and by the pace of change within the larger universe of corporate governance. EPMR panels looked more closely at board structures, the focus of board agendas and the quality of boards' oversight functions. The dysfunctional politeness that muted center governance and muted the evaluations of governance has disappeared, replaced by a rigor and frankness that is important to sustain.
- b. Although stepping up recruitment, center boards lack sufficient expertise within their membership to provide sophisticated oversight of financial matters, including raising strategic questions about whether a center's capacity will support its objectives.
- c. The conventional governance structures for programmatic oversight are in flux. Program committees, committees of the whole, and newly formed science advisory councils received substantial attention from panels.
- d. The board role in commissioning and framing CCERs is too passive, given the contribution that CCERs make to the quality of a board's programmatic oversight.

12. The EPMR Process

- a. Panel chairs are the most significant contributors to the quality of the review. The professional standing of the panel chair strengthens the peer value of the process to centers, but management skill, temperament, and style facilitate the productivity of the panel and have a significant impact on the quality of review.
- b. The perceived value of the EPMR is unfairly measured by the degree to which its findings are critical or negative. "Good" reviews risk being

viewed as less rigorous than “tough” reviews. There is a suspicion that positive evaluations should be arrived at more cheaply than those that are negative.

- c. Centers and their boards are not exempt from the vulnerability that accompanies any highly public evaluation process. The acceptance of an EPMR by a center can be eroded by small errors of fact, lapses in process, assessments that stray beyond TORs, concerns over hidden agendas, and doubts about the qualifications of panel members. A sympathetic awareness of this dimension of the process cannot compromise an EPMR’s rigor but neither should it be ignored during the preparation and conduct of a review.
- d. The center of gravity for an EPMR is the Science Council. If not by design certainly by default, the current chain of review in the System with its attendant time lags from Science Council to ExCo to AGM yields decreasing value to the centers and the System on the heels of the SC review. Increasingly, centers actively seek a return on their investment by acting on panel recommendations that have meaning and utility as quickly as possible. The CG System must do likewise or cede the responsibility for meaningful assessment of the EPMR to the body that gets to the review first.

Section 1: The Meta-Evaluation of EPMRs

Introduction

In the course of the 1993 ICARDA review, the chair of the panel, introduced a number of tools and processes into the review that he later evaluated in terms of the tradeoffs they represented between “efficiency, efficacy and expediency.” As the review proceeded, he explored when efficiency in the review process affected efficacy, and under the real pressures of time and resources, expediency could be achieved without too great a cost to the quality of the review. A recent panel chair expressed his concern with quality in terms of saliency, legitimacy, credibility, and independence¹.

In some ways, the current meta-analysis of center EPMRs poses a comparable opportunity for assessment and reflection. The 11 EPMRs conducted between 2003 and 2006 provide an unusually rich opportunity—they are a significant subset of the centers themselves and the relatively short interval within which the reviews occurred provides them with a remarkably consistent framework and a sense of near simultaneity. Although the EPMRs occurred during a period of significant change within the CG System and also during a period of dramatic, pressing change in the external environment, the meta-analysis benefits from the degree to which these were events and environments common to all 11 of the centers, however different each center is in terms of its mission and the specificity of its goals.

This report is divided into five sections. The Section 1 provides the reader with background to evaluation in the CGIAR which is the context for this exercise. Sections 2 and 3 comes from an analysis of standard issues at the center level and their treatment across the 11 EPMRs, including research strategy, research management processes to maintain scientific quality, and center management, finances and governance..

The analysis of the EPMRs draws fully from the reports but does not rely only on the panels’ formal recommendations. As a practical matter and a tactical one, the number of recommendations in any EPMR is generally kept between 12 and 15 to give the recommendations weight, signal their priority character, and give the centers a reasonable set of concerns to address. They are a product of consensus within the panel but usually also represent a careful distribution of available “slots” that allow for the reasonable coverage of both program and management issues. It was felt by the reviewers that a number of useful insights, particularly into issues with system-wide implications, would be left on the floor if the analysis looked exclusively at the issues that rose to the level of a recommendation.

J. Anderson, chair ECARDA EPMR (1993)

¹ J. Burley, chair ICRAF EPMR (2006).

Background and Context

The request for a meta-evaluation of EPMRs originated in ExCo which noted the opportunity presented by the 11 EPMRs conducted since 2003 to do a cross-cutting review. The period was one of great intensity in the System, which had influenced the way evaluation is approached. Significant events included:

- 1) a reform in decision making in the CGIAR that defined the roles of a new Science Council, Executive Council and CGIAR Directorate
- 2) a backlog of pending EPMRs that could were completed within a compressed timeframe
- 3) the growing importance of Center Commissioned External Reviews (CCERs) to the EPMR process
- 4) increasing demand for rigor in the preparation of Medium Term Plans in an output to outcomes framework that increased transparency and comparability
- 5) the completion of the first cycle of the Performance Measurement System (PMS) linked to the center MTPs and the allocation of World Bank funding

These developments in the evaluation system are part of a more flexible and decentralized system that is incentive-driven and accountable for performance. An integrated planning, monitoring and evaluation system is in the process of evolving. The components include the center MTPs (3-year rolling plans), the PMS (annual reporting on key indicators), the CCERs (periodic board-commissioned reviews of center programs and units), and the EPMR (a five-year encompassing review).

In a more decentralized system of centers, challenge programs and framework programs, the center EPMR may not continue to be the only dimension of major evaluation, but should define its role and value in an integrative fashion.

Terms of Reference and Study Approach

The terms of reference for this review asked the team to address:

- 1) Identify common program, governance, management and finance issues that have system-level significance
- 2) Derive lessons (from the reports and commentaries) that have system-level significance,
- 3) Report on the quality, content and comparability of the EPMRs including issues that the team finds should have been covered by the panels and where it finds a high degree of variability across the reviews.
- 4) Assess the process used to conduct EPMRs and follow up of EPMR recommendations, especially with a view to streamline the process and make it more effective and efficient.

The team broadened the scope of its assignment to review how the EPMRs (and other System evaluation instruments) were used by donor and partner agencies, and if modifications to the EPMR could replace or reduce the evaluations conducted separately by donors. The team made contact with a number of donor agencies to see how they view and use the EPMRs in their agencies. Although those contacted offered suggestions about strengthening the process, none could envision the EPMR replacing or reducing the evaluations they conducted, and they acknowledged that there was not always a direct link between individual EPMRs and their funding decisions, which have more to do with the centers' alignments with donor interests. Nevertheless, donors raised and answered a more fundamental question: Would they invest in the CGIAR if it did not have a functioning evaluation system? The answer was "no." This finding reinforced the importance of having an evaluation system in place at the System-level that can provide assurance that the centers are effective and accountable.

The team also contacted several panel chairs, center directors, board chairs, and the Alliance (limited by the time available for the study)², to explore questions linked to the EPMR process and its perceived value.

An overview of the common issues came from an analysis of recommendations and responses by centers. The recommendations were categorized and sorted by theme or management issue to identify where the issue was highlighted in the different reviews. Cross-references between program and management issues (e.g., changing program strategy and human resource planning) could be seen in the sorting.

Building on previous lessons

The Executive Council and Science Council are interested in consistency, comparability, quality and streamlined processes for the EPMRs. A panel chair is concerned with saliency, legitimacy, credibility, and independence. The team was greatly helped by an earlier attempt by an EPMR panel to provide reflections on their experience (ICARDA 1993)³. Their analysis of the tradeoffs among efficiency, efficacy and expediency are reported in greater detail in Annex 1. The analysis highlights the importance of fine tuning the review process to the individual center.

An EPMR may also make important contributions to the science and practice of future reviews. Within the current group of 11 EPMRs, the changes in the scientific environment, the way research is organized and the practice of nonprofit management have been introduced in pivotal reviews, and future EPMRs will be able to draw on their work.

We note the following EPMRs have contributed in a seminal way to advancing the review process through special attention to certain issues that will help future reviewers but possibly raise the bar for their discussion.

²See list of people contacted.

³ Panel Chair: Jock Anderson (See Annex 1)

Table 1.1: Seminal Discussions in EPMRs

Seminal Discussions in EPMRs	
Issue	EPMR Discussion
Improving Review Process	ICARDA (1993)
Governance	CIMMYT 2006
Collaboration, decentralization, and capacity strengthening	IFPRI (2006)
Research-Development Continuum	ICRAF (2006)
Use of CCERs	IPGRI 2004
Finance	CIMMYT 2006
Innovation Approaches	ILRI 2006, WorldFish 2006

System Context and System Reform

A classic definition of a system is that it is a set of parts coordinated to achieve a common objective. A system is defined by its objective and described by its components, its resources, performance measures and its management mechanisms. The CGIAR has a vision and priorities established through a consultative process, it is moving towards more integrated performance measurements, it is characterized by the continuing autonomy of centers and investors, and is trying (on the side of the investors and the Alliance) to put in place mechanisms and incentives for coordination and management.

Strategic planning and management can mean many different things: 1) set priorities and plan and allocate resources to implement them (which suggests a machine metaphor), 2) chart directions and evolve according to external forces (which suggests an ecological metaphor), or 3) choose priorities within a number of plausible scenarios and make adjustments to the strategy iteratively as conditions evolve (which suggests an organic metaphor). The CGIAR may aspire to be organic.

The EPMR is part of an emerging system of integrated evaluation that includes center Medium Term Plans (MTPs), the Performance Measurement System (PMS), Center Commissioned External Reviews (CCERs) and system-commissioned External Program and Management Reviews (EPMRs). The System Priorities are periodically reviewed but unlikely to change from concerns with poverty alleviation and sustainability (although relative emphasis on germplasm-led productivity, natural resources management and socio-economic research) may vary over time. These elements are found in most of the EPMRs and their treatment can vary according to the time the review was done or the comparative advantage of the center being reviewed.

An issue becomes “system-level” when a) incentives or policies are needed to bring autonomous centers towards addressing System Priorities, b) when there are economies of scale to be obtained by addressing the issue together and market failure prevents collective action. In recent years, the System has seen various attempts to create new means for system-level coordination around the new System Priorities (SPs). These include Challenge Programs, regional planning, and performance monitoring linked to

incentives. On the governance side, the CGIAR has created an Executive Council to act on behalf of the members between Annual General Meetings and an Executive Director of the CGIAR with the Secretariat located in the World Bank as a unit of the System Office. The Secretariat provides support for various decisions or actions of ExCo to merge and strengthen corporate services.

There are multiple mechanisms in the CGIAR to deal with system-wide issues. Some have been created by the System and some have grown up to make the System more effective. An EPMR panel may mention a particular network or partnership for strengthening; system-level action may also be required. Annex 2 lists some of the areas where mechanisms operate at different levels to deal with important issues facing the System.

It should be noted that an EPMR is essentially centered on the center under review. Panels are more comfortable in making recommendations that can be acted upon by the center itself where the benefits and risks are more predictable from a center's perspective. Some notable examples are the following:

- CIMMYT-ICARDA MOU on wheat: The CIMMYT review team saw it as highly positive while the ICARDA review noted that it would work 'so long as both parties find it mutually beneficial'.
- CIMMYT-IRRI Alignment: Re-emphasizing the System view the Science Council recommended that 'any change in formal center partnership be done with full anticipation of the ongoing evolution of priorities and priority clusters within the CGIAR'.
- WorldFish-IWMI shared services: while lauding the gains to the System the panels cautioned the centers about the potential downsides (detailing a total of 9 risks).
- ILRI's EPMR was impressed with its willingness to take leadership for sub-regional planning in eastern and southern Africa but commented that the collective effort was unlikely to return benefits to ILRI itself commensurate with its efforts. As a center-specific review, it also mentioned the risks of creating a major regional platform (Biosciences eastern and central Africa) and the difficulties of alignment of corporate services with ICRAF.

We have used the term "barking dogs"⁴ to identify a number of issues that EPMR panels have said were beyond their terms of reference or that begin to emerge in the reviews. In the latter case, the review team considers these to be issues that the System should begin to explore or that panels should be asked to consider more fully in the future. In many cases, the solution required action that was beyond the control or effective action of the center. The issues that so crucially affect the actions of the centers include: 1) governance of the CGIAR, 2) the progress of science outside the CGIAR, 3) regional trends, 4) donor support, and 5) evolving standards of practice in governance and management.

⁴ The reference is to a Sherlock Holmes story in which the clue is the "curious incident of the barking dog." The fact that no dog was heard barking indicated that the perpetrator was well known to the dog.

In its strategic planning, a center obviously scans the environment and charts scenarios for its development, but a center is not only reactive to its environment. Individually and through the Alliance they interact with the Science Council, which provides strategic guidance for the System as a whole, and with the CG Secretariat, which is responsible for policies and mechanisms for the System's development.

In many ways, the EPMR panels have a good view of where the System would like to go and use various principles coming from System documents to assess how the center is aligned with priorities or principles. However, the governance of the System and the mechanisms of action and control over resources cannot ensure implementation of the System view. Centers must strategize for their continuation, and donors will choose programs and centers that are aligned with their interests. Therefore, the review team's recommendations at the system-level are not new but necessary to repeat, and the discussion is introduced at this point to keep the System view in mind as we look at the treatment of center programs, management and governance.

Users of the Reviews

The principal users of the EPMR are the centers themselves and the Science Council. The centers use the review to bring about needed change and the Science Council (because of its place in the System chain of review) provides the assurance to donors that a credible system of evaluation is in place.

The Center as User

The review may come at quite different stages of life of an institution or mandate of a given director general. It may identify or confirm problems that force it to take on a transformational role.

Table 1.2: The Impact of an EPMR

Center	Status of Strategy	Status of DG Tenure	Special Concern	Nature of Key Recommendations	Impact of Review
IWMI	Full Implementation	End of mandate		R-D Continuum, Management of Science	Input to Improvement
ILRI	Full implementation			Expand on world mandate; merge some activities	Input to Improvement
CIMMYT	Transition	Start of mandate	Financial crisis	Strategy and Business Plan; return to core business	Transformational Basis for major reform, Follow up review
ICARDA	Transition	Start of mandate		Strengthen scientific research serving SAT; versus servicing needs of partners	Input to Final Strategy, Improvement
WorldFish	Full implementation				Input to improvement
CIFOR	Transition	End of			Input to

Center	Status of Strategy	Status of DG Tenure	Special Concern	Nature of Key Recommendations	Impact of Review
		mandate			improvement
ICRAF (WAC)	Full Implementation	Continuing Mandate	Strategic Direction, Management	Develop Strategy, refocus, return to science, solve management problems	Transformational Follow up review and Report to ExCo on change
IFPRI	Full implementation	Early in mandate		Decentralization, Outreach, Disciplinary mix	Input to Improvement
IRRI	Full implementation				
IPGRI (Biodiversity)	Transition	Start of mandate		Strategy, R-D balance, Board-Management relations	Input to improvement
ICRISAT	Full implementation			Relocate to Africa, strengthen IPG	Transformational

The EPMR has been used by centers where the Director General is arriving at the end of his mandate 1) as an input to succession planning, 2) as an input to revision of a strategic plan, 3) to help identify issues for early action by the incoming DG, and 4) to tune up the center.

As the primary user, the board and management of a center usually agree or partially agree with most recommendations and begin implementation on these before the process comes to the Science Council or ExCo. However, the Science Council may object to recommendations if it believes they are not in line with the System Priorities.

In the case of CIMMYT, the EPMR highlighted a number of issues with which a relatively new Director General had to contend. Both the center and the board took bold actions to respond to the recommendations; a follow-up review provided additional support through a difficult period. CIMMYT was commended for its response to the EPMR and the impetus it provided to address its problems.

The donors as users of EPMRs, donor evaluations and the “burden of review”

The EPMR plays a key role in the System. It cannot substitute for donor evaluations but the emerging evaluation system in the CG may make reviews less burdensome. On the other hand, donor evaluations are immensely valuable to EPMR panels. (The CIMMYT review calls them the most important and undervalued source of information and recommends that they be among the required documents a center provides to the panel.)

a. Donor meta-evaluations

Donor meta-evaluations of the System are required by their organizations' regulations. They are periodic and the information required is often dated or not included systematically in the EPMRs. (Increasingly elements will be found in the Performance Measurement System. Therefore, the EPMRs cannot substitute for this type of review.

Such reviews, usually involving visits to centers by consultants pose relatively light burdens on the centers. Their focus is more at the System level.

In the case of the on-going meta-evaluation by the European Commission, officials and consultants confirmed that:

1. It is essential for the CGIAR to have a well functioning system in place.
2. At the moment, EPMRs are focused on centers but the evolution of the System is towards a more systematic view including SWEPs and Challenge Programs.
3. Evaluation will increasingly focus on impacts and outcomes around priorities and initiatives. (Framework Programs would be looked at on a case-by-case basis for priority.)

While it is beyond the terms of reference of this review, the reviewers see an emerging issue for the System in managing cross-cutting evaluations of centers, programs and initiatives.

In the case of the World Bank (ARD) support to the CGIAR comes from DGF and must be evaluated periodically as one of their partnership programs. It must satisfy the board that the CGIAR partnership contributes to the Bank's goal of poverty elimination and carries out research for development with impacts. The EPMRs (and this meta-evaluation of the EPMRs) will be an input to the Bank's requirement.

Apart from this global interest, the Bank has been intimately involved in creating the Performance Measurement System managed by the CGIAR Secretariat and it uses the Bank's annual contribution as an incentive to productivity and good governance and management. At present, it allocates 50% of its contribution based in part on a set of externally reviewed indicators linked to center achievements.

Given its insider status, the Bank does not have to wait for an EPMR to identify financial or other crises. However, an EPMR analysis can be the trigger for intervention to support necessary changes.

b. Donor reviews of projects

When centers mention the burden of reviews, they usually mean repetitive reviews of the same project (e.g., the Desert Margin Program which allegedly had four reviews in one year). The Paris Declaration provides for coordinated or joint reviews and efforts are being made in this direction. With some coordination and harmonization of tools, they can serve as CCERs for the center's next EPMR or, at least, be carried out at lower cost due to the availability of information produced by the PMS. Where a project is between a center and a collaborating ARI, issues of staff evaluation, supervision and ownership of intellectual property require special attention that is not included in an EPMR

c. Donor inputs to EPMRs.

Donors are consulted on the TORs for external reviews. There are standard terms of reference and specific questions that the Science Council prepares for inclusion. There is limited feedback to the Science Council at this stage. Donors with a specific interest in a given center may put forward specific questions but many do not have the staff resources and time to invest at this stage. Most of them see their issues covered in the standard TORs.

Section 2: Ensuring Relevant and Quality Programs

Introduction

The maintenance of science quality and relevance is directly related to the quality of research management, in particular clear priorities and expectations. In this section we first summarize the “contributors” to science quality and relevance that are used in the reviews. We then look at the research management process. Finally, we investigate the treatment of key issues that have system-level significance.

Measurement of Science Quality and Relevance

The EPMRs have worked with rough indicators for many years in order to have evidence-based conclusions. Table 2.1 is a composite of both input and output indicators that EPMRs have used as “contributors” to evidence of science quality. The indicators have been used “faute de mieux” but are becoming increasingly formalized by the PMS.

Table 2.1 Contributors to Scientific Quality

	Case Highlight	Particular Use of Indicator or Caveat by Panel
Quality of Staff		
Formal qualifications	All	Ratio of PhD and MSc to total research staff;
Critical mass and dispersion		Comment on size of unit relative to program challenge, dispersion across field offices;
International reputation	CIMMYT, ICRISAT	Panel noted recipients of King Beaudoin Award; Other indicators suggested were: Honorary Professorships, Invitations as keynote speakers in international meetings; World Food Prize etc.
Involvement in academic collaboration	CIMMYT, ILRI	Average number of students supervised per year;
Age profile and cohort	ILRI	Noted inflow of young, highly qualified scientists; rising qualification of NRS by comparing cohorts since the creation of ILRI and in last five years
Quality of Processes to Monitor and Maintain Quality		
1. Reviews by donor agencies	CIMMYT	One of the most effective, but least appreciated mechanisms in the CGIAR, for maintaining the quality and focus of science in the centers (in this case 3-4 per year).
2. System-wide Studies	CIMMYT	Substitute for CCERS: SWR on Plant Breeding Methodologies, Review of Rice-Wheat Consortium
	ICRAF	Need for an external review of African Highlands Initiative which is both a SWEP and a network of a sub-regional organization.

Table 2.1 Contributors to Scientific Quality		
	Case Highlight	Particular Use of Indicator or Caveat by Panel
3. Center Commissioned External Reviews	IPGRI (Biodiversity)	Used the CCER mechanism "systematically across its entire project portfolio, including reviewing two activity areas twice between the 4th and 5th EPMR.
4. Consultant Reports in lieu of CCERS	ICRISAT	Board Program Committee commissioned study not a full CCER.
5. Planning, Monitoring and Evaluation Processes	All	Mechanisms: Senior Management and Research Committee, Annual Program Reviews, MTP processes, (Performance Measurement System), Oversight by BOT, Staff Performance Appraisals
6. Impact Studies	All	Centers evaluated on the quality (or absence) of impact studies in key areas.
	IFPRI	Special attempt to develop a methodology for evaluating policy-oriented research; other policy-oriented centers encouraged to contribute to the methodology
Quality of Research Facilities and Services		
1.Information and Communication Technology	All	Highlighted in EPMRs where "alignment" of centers involves merger of corporate services; often a CCER is held in advance of EPMR
2. Libraries and Information Centers	All	Budgets for acquisition, electronic access compared with "peers" where available; comments of staff
3. Laboratories	ILRI	Impact of BecA project on renewal of facilities and possible financial risks
Quality of Research Outputs		
Publication in internationally peer reviewed journals	All	Debate over indicator continues in Performance Measurement System, generally accepted as highly correlated with quality of output. Use of averages for comparing across internal units of center is disputed as not differentiating types and usefulness of publication to clients.
	CIMMYT-IRRI	CIMMYT EPMR used IRRI as comparator (size, type of research, availability of data).
Other peer-reviewed publications	All	Highlights peer review process more than venue.
Other outputs valued by Center: varieties, technologies, methods	ICRISAT	Survey of scientist perceptions of what is prized in center context. Highlights both "varieties" and "methodologies used by others."

The key issues that come in discussion of science quality are:

1. The need to produce quality science in order to remain a "partner of choice" or even a player in international research. Even if a center chooses to play a facilitating role, it must produce some scientific output to maintain its credentials. (By analogy: a translator must be bilingual.)

2. The likely trade-off between quality of science (as measured in publication in peer reviewed journals with a high impact factor) and the share of a center's resources devoted to "downstream" activities.
3. Dissatisfaction with a single publications indicator is being corrected in the PMS. The nature of publications may represent a choice of where to target output (e.g., the ICRAF CCER on science and capacity building "did not detect any decline in the quality of science since 1990 although they pointed out a decrease in the quantity of quality outputs." This may be compatible with an increase in other publications (e.g. edited book chapters and monographs with a high relevance factor to their clients) as ICARDA claimed in response to a similar observation. CIFOR was applauded for its output of relevance to its immediate clients but was said to have missed out global science as a client.
4. The difficulty of maintaining scientific quality in a decentralized and widely dispersed staff is recognized as a management challenge calling for new approaches.

Research Management Processes: an overview from the reviews

Strategic Planning

Since a panel is required to report on a center's vision and strategy in relation to System Priorities, it is no surprise that recommendations relating to some aspect of strategy were made in 9 of the 11 cases. Since most centers have a strategy and are aligning themselves with System Priorities, it is difficult to come up with novel recommendations. Most of the recommendations, therefore, were for more of a good thing: more focus, more transparency and more coherence across programs.

Examples of recommendations are:

1. Define mission and vision more firmly (IWMI) and in a longer time frame consistent with the nature of their research (ILRI)
2. Put all projects through an organizing framework to ensure consistency with the center's mission and vision (CIFOR)
3. Consolidate action around a smaller number of topics (ICRAF, WorldFish)
4. Provide for more formal and transparent priority setting (IFPRI, IPGRI)
5. Bring coherence across activities of the center (WorldFish, CIMMYT).

The discussions of strategic planning represent the ebb and flow that have always existed between rational planning and consultative approaches.

The System is strongly grounded in rational approaches and its efforts to create an integrated planning, monitoring and evaluation system are both rational and professional. The next step is to develop the tools that accompany an innovations perspective and the more decentralized nature of research that is involved. The World Bank has recently prepared a National Agricultural Innovation Project (NAIP) for India based on the

“processual approach” of van der Heijden⁵. A similar approach is outlined in Bryson’s guide to strategic planning in public and non-profit organizations⁶.

We discuss the desirability of taking an innovation system approach later in this section when looking at the apparent difficulty the System has in producing international public goods in decentralized programs. At the moment, the System does not collect logframe information in its MTPs that is regionally discriminated, a factor that complicated development of the regional plans for collective action (RPCAs) in sub-Saharan Africa which use an innovations approach.

Priority Setting, Resource Allocation and Business Planning

The discussions of priority setting in the EPMRs can be summarized in the following points taken from the reviews:

1. There must be transparency and clear criteria: “the issue of scientific quality is closely linked to clear priorities and criteria” (CIMMYT).
2. Processes must involve center boards (at the level of guidance on criteria) and partners at different stages.
3. Centers must develop tools that allow priorities to be set across themes and regions. For example, it was recommended that IRRI should use the results of ex ante impact studies in unfavorable environments in its priority setting exercises.
4. Resource allocation must be linked to priorities.

There appear to be four recommended approaches to strengthening the nexus between resource allocation-priorities:

1. Undertake rigorous priority setting that can be used to allocate resources and develop a business plan that brings coherence across the programs (CIMMYT).
2. Involve the board of trustees in major issues: Have all proposals larger than a specified amount go to a board committee (CIMMYT). (Many centers encourage scientists to mobilize resources but have projects above a certain ceiling cleared by the senior management team.)
3. Have the board set fundraising priorities (CIMMYT) and define a strategy for leveraging resources (WorldFish)
4. Make scientists responsible for mobilizing resources and empower them to make commitments within fairly liberal limits without having to report to the senior management team.⁷

The use of a business plan, with an emphasis on resource mobilization for the organization’s priorities is not established in the CGIAR. Some more advanced NARS

⁵ Van der Heijden, K. Scenarios: The Art of Strategic Conversation. New York, Wiley 1996.

⁶ Bryson, John M. Strategic Planning for Public and Non-Profit Organizations 3rd Edition. New York: Jossey Bass/Wiley 2004.

⁷ There would be lower limits to insure against high reporting overheads for excessively small projects and upper limits on commitments that might bias the strategy of the center. This relies also on decentralization of major authority to program directors.

are using this approach (e.g. South Africa) and DfID has been assisting regional networks develop business plans. In its commentary on the need for a business plan, the CIMMYT EPMR notes that “this dilemma is not unique to CIMMYT and that all centers, and the System as a whole, are challenged when it comes to aligning resource allocations to priorities.”

Monitoring, Evaluation and Impact Assessment

As one evaluation specialist in the System put it, “If you can plan it, we can evaluate it”⁸ It is not surprising, therefore, that EPMR recommendations go back to planning projects that are consistent with the center’s mission and System Priorities. If this is done, then monitoring and evaluation become a matter of evaluating whether the many mechanisms and incentives lead in the right direction. At the center level there are multiple mechanisms at the team, division, and center levels. These include Team, Unit and Program PM&E; performance evaluation mechanisms (adapted to the program or unit’s time frame and indicators); center-wide annual program review and planning meetings; Center Commissioned External Reviews and more effective oversight by board program committees at the planning as well as reporting stage.

The recommendations that were made in the reviews are again process and improvement oriented at the center level and do not provide much guidance for solving system-level issues. Examples from the EPMRs include:

1. Introduce 360 degree performance evaluation for senior institute and program managers (ICRISAT)
2. Investigate the causes of low publication productivity (ICARDA)
3. Carry out a CCER of each division at least once every 5 years (IFPRI)
4. Recruit an in house impact evaluation specialist (IWMI) and carry out rigorous CCERs
5. Conduct ex post impact studies of selected programs with methodological support from the new Innovation and Impact Unit (ILRI)

CCERs were introduced as a way of lessening the pressure on the External Program and Management Review panels. The alleged advantages were:

1. They are planned and commissioned by the center as a regular part of their evaluation system.
2. They are commissioned by the board as part of its due diligence and strengthen governance.
3. They are carried out by known experts in the area of investigation and in greater depth than an EPMR team could do.
4. Their existence lowers the burden on an EPMR panel whose task would be to evaluate the findings of CCERs and not carry out its own review under time pressure (i.e. an “audit of the audits”).

⁸ Personal communication Doug Horton.

The issues that have come up with respect to the CCERs are:

1. The high variation in the quality of the review due to leadership and panel members
2. Independence from the center that commissioned it
3. The Terms of Reference and whether it can fulfill its role as a management instrument and still be an accountability instrument useful for the EPMR
4. Their use by the EPMR (with reactions going from polite dismissal, re-doing the job, or lauding them for their completeness)

In the current round of EPMRs there were few recommendations that dealt specifically with CCERs:

1. ICRISAT was called to take more vigorous action to implement the results of their CCER on socio-economics
2. IWMI was called to implement a program of CCERS covering all themes
3. WorldFish agreed to a rolling program of CCERs led by the board but not beginning until three years after the new strategy had been in place
4. ICARDA agreed to a CCER on finance and management, including human resources

CCERs are seen to play a growing role in the integrated evaluation system, and will become even more critical in reinforcing the importance of the centers in a system with cross-cutting challenge programs and framework programs. A fuller discussion of CCERs is found in Annex 4.

Impact assessment is now enshrined in the Performance Measurement System. In a first exercise, centers were requested to submit their three best impact assessment studies for review by SPIA. The recommendations from ILRI and WorldFish reviews capture the “why and the how” of impact assessment:

- ILRI panel recommendation: As a critical component of ILRI’s systems approach, the panel recommends that ILRI management charge the research themes to conduct ex post impact studies on selected programs using methodologies developed by the new Innovation and Impact Unit, and using external inputs where needed.
- Center response: Agreed. ILRI will take steps to strengthen its ex-post impact assessment capacity. These will include the participation of scientists who carried out the research, methodological support from impact assessment specialists in ILRI’s Innovation and Impact Unit and review by outside experts to ensure objectivity.
- WorldFish panel recommendation: [WorldFish should] determine its positioning on the research-to development continuum, within the framework of an impact pathway analysis, for all major projects.

- Center response: Agreed.WorldFish uses the [research] Value Chain diagram as advice to guide discussions and thinking about these issues.

Both of the above centers use a knowledge or innovations systems perspective.

From the panel recommendations across the System (or the absence of recommendations) the meta-evaluation recommends that the CGIAR:

1. Systematically use a knowledge or innovations perspective in its planning
2. Continue to develop an integrated PM&E system with supporting tools and databases
3. Ensure that the information collected supports a wider innovation systems perspective and includes regional discrimination of activities to support more decentralized approaches.

Key Programmatic Issues

Introduction

The meta-evaluation team had to make some trade-offs of its own in choosing program issues to explore. It looked for issues that a) were frequently cited in recommendations, b) gave rise to some variation in the nature of the recommendation, and c) might be one of those issues where “there was no right or wrong answer.” Context is important and the lesson cutting across all the reviews would be the importance of developing a framework leading to a good fit for the center and its work.

We chose to focus on two issues that meet the above criteria and one that did not. The two issues that met the criteria are: 1) Policy, socio-economic and institutional research and 2) Positioning the center on the research-development continuum. The issue that did not meet the criteria (and is considered one of our “barking dogs”) is the creation, maintenance and use of databases and information in the CGIAR.

Policy, socio-economic and institutional research

The definition of a socio-economist” is debated in many fora and even whether or not it is a “discipline” as such. Without entering that debate, the review team notes the various roles that have been ascribed to socio-economists at various places in the EPMRs are:

1. Analysis of the economic and policy environments (both global and national).
2. Technical inputs to production and now value-chain) research focused on particular commodities
3. Modeling future scenarios (integrating economic and bio-physical models, use of GIS).
4. Facilitating internal processes (PM&E, impact evaluation)
5. Maintaining databases for center and System planning as International Public Goods (e.g., ASTI, FishBase).

The way socio-economics is viewed in an institution (or the way the review panels would like it to be viewed) can be seen in the recommendations. Ultimately, each center will determine the most appropriate roles and structures for integrating socio-economics with its other programs:

The views of EPMR panels are seen in the areas of socio-economic work and the centers where they have made recommendations.

- Macro analysis (WorldFish, ICRISAT, CIMMYT, IFPRI)
- Policy: WorldFish (environmental impact); ICARDA (water policy) ; IWMI on world Supply and Demand;
- Technical inputs (CIMMYT conservation agriculture; ICARDA's GISU to expand research into causes of yield gaps; IRRI modeling at irrigation scheme level
- Modeling and integrating technical and economic information: IWMI, IFPRI,
- Maintenance of databases: IPGRI, CIFOR and ICRAF to develop meta-data on forests; WorldFish and its key role in Fishbase (IFPRI and ASTI are mentioned as a public good on the Web but not discussed in detail.)

A complementary approach to socio-economics and policy research is to see what panels have had to say for three broad types of centers: 1) centers that are strongly policy-oriented around particular themes (IFPRI, CIFOR, IWMI, IPGRI, WorldFish and ICRAF/WAC), 2) centers that are commodity-oriented with a strong economics and policy program (IRRI, CIMMYT, ILRI) and 3) Ecoregional centers with global mandates for particular agro-ecologies but are strongly based in a specific political-geographic region (ICARDA, ICRISAT).

The analysis is only partly articulated (due to time constraints) but it highlights points that were made in the reviews about the following policy and socio-economic research thrusts: Macro-economic trends, internal planning and evaluation functions, Technology analysis, Modeling, Institutional analysis and Impact studies.

The following general observations come out of the review of the EPMR documents:

1. All centers have aligned themselves with the goal of poverty alleviation and recognize the importance of socio-economics in dealing with this issue.
2. Most centers recognize the cross-cutting nature of socio-economics and seek the "holy grail" of eventual integration of biophysical, genomic and socio-economic information.
3. Centers try to development integrated tools that are applicable at various scales
4. Socio-economics is being interpreted as "more than agricultural economics" and there are calls for a broadening of the discipline base in policy work: sociology, institutional organization, and political science (IFPRI).

5. Moving from “what is” to “how to” involves centers in the study of policy processes. In centers that have strong IPR departments, the addition of legal expertise is needed. IPGRI, for example, was advised to maintain a balance between policy [which is normative] and the law [which is about rules].
6. Policy analysis must be based on “sound, credible and relevant science.” (Policy research for advocacy compromises credibility)
7. Methodology for impact analysis has been pioneered at various times by individual centers (IFPRI on impact of policy analysis, ICRISAT on analysis of agricultural technology, various centers on NRM). EPMRs continue to point out the need for such work. In some cases the EPMR laments the erosion of the lead a center had or the failure to apply methods once developed.

Centers with a particular commodity-based interest are encouraged to:

1. Sustain their research on markets at the global and regional level for their commodities
2. Integrate tools of analysis (see bullet 2 above).
3. Seek the IPG content of “innovation systems studies” (e.g. ILRI).

Ecoregional centers (ICRISAT and ICARDA) are faced with an interesting dilemma: Their mandate areas (semi-arid and dry areas, respectively) are broader than the geographic area in which they are headquartered. ICARDA is encouraged to look at its mandate for all dry areas and not just CWANA. ICARDA sees 80% of the non-tropical dry areas as falling in the CWANA area but recognizes the need to look at other dry areas. At the same time, ICARDA is encouraged to do more to study the causes and effects of poverty at the household level, which requires region-specific knowledge of institutions, policy and gender. The geographic expansion and the move downstream might be achieved at the expense of IPGs. In ICRISAT’s case, the EPR recommended the transfer of the HQ from Asia to SSA. Yet the EPR notes that two of ICRISAT’s comparative advantages are knowledge of seed systems and data on evolution of rural communities, both of which have a strong location-specific content.

The way socio-economics is organized within an institute is one of those areas that “has no right answer.” For example, when IWMI phased out its “Policies, Institutions and Management” program it was seen as “losing a niche area that was not compensated by mainstreaming these concerns in programs.” The center agreed to revisit this issue (which is different from agreeing with the recommendation).

Policy-oriented research

The CIMMYT panel declares that the single most important constraint to adoption of improved technologies in Africa is agricultural or macroeconomic policy issues. In the treatment of the EPMRs the panels have usually differentiated between policy-oriented research and economic research; the former analyzes what is, the latter looks at what could be and how it can be achieve. Policy-oriented research calls on a wider disciplinary

base and demands understand of the processes by which changes in policy will have impact on the target group. The centers carry out research that informs decision-making but they stay away from policy advocacy, a function where they lose their comparative advantage derived from their independence and objectivity. EPMR recommendations generally do not deal extensively with “policy” research but tend to consider it along with socio-economics (where it is often housed).

Going beneath the level of recommendations we can look at the way the panels have seen research outputs of a center (and said to be policy research) feed into policy outcomes. Table (2.2) summarizes examples from several reviews but is not meant to be exhaustive:

Table 2.2: Policy research and evidence of outcomes

Center	Panel Comments	Center Methodology	Output	Outcome/Impact
CIFOR	<ul style="list-style-type: none"> Reconfirm need for policy research Outputs significant 	<ul style="list-style-type: none"> Full partnership with non-forestry institutes 	<ul style="list-style-type: none"> Policy briefs, submissions to major meetings Website use and citations high 	<ul style="list-style-type: none"> Have evidence of improved content of investment projects Informed testimonials
ILRI	<ul style="list-style-type: none"> Focus on primary constraint to assisting the poor 	<ul style="list-style-type: none"> Incorporate technical, economic, social and policy research Poverty mapping IPMS (improving productivity of markets project) 	<ul style="list-style-type: none"> Identification of the poor and their relationship to livestock (and other factors) IPMS project learns IPG lessons by carrying out development 	<ul style="list-style-type: none"> Use of GIS information by partners in regional planning (e.g. ASARECA) Panel cautions about high opportunity cost in using development projects to learn lessons
IFPRI	<ul style="list-style-type: none"> Pioneering work on impact analysis of policy research Country policy groups Vision 2020 	<ul style="list-style-type: none"> Synthesis and Case Studies Policy research supporting Ministries Major international forum 	<ul style="list-style-type: none"> Understanding how to enhance such research in policymaking environment Understand why proven nutritional policies are not followed up Major policy conference with many spin-off publications 	<ul style="list-style-type: none"> Center reputation as convener and expert Documents of reference widely shared with target audience. Country offices inform the policy advisors
IPGRI	<ul style="list-style-type: none"> Highly visible role in negotiations of ITPGRFA and CBD Balancing the focus on legal issues with policy issues. 	<ul style="list-style-type: none"> Advice on genetic resources policies, regulations and legislation Focus on support to NARS implementation 	<ul style="list-style-type: none"> Trade-off between country-level support and IPG 	<ul style="list-style-type: none"> Better access and benefit sharing arrangements for NARS Better legislation at national level Representation of CG centers in fora

Center	Panel Comments	Center Methodology	Output	Outcome/Impact
CIMMYT	<ul style="list-style-type: none"> Enhancing the integration of S&T aspects into policy research Address the most important constraint to adoption 	<ul style="list-style-type: none"> Macro policy studies affecting maize 	<ul style="list-style-type: none"> Studies available when demanded 	
	<ul style="list-style-type: none"> Strong technical base Open-ended "policy research" can be diffuse 	<ul style="list-style-type: none"> Technical methods, GIS, improved hydrologic science TATA water policy project 	<ul style="list-style-type: none"> Trade off analysis between sustainability and productivity at basin level Tested tools for irrigation management transfer 	<ul style="list-style-type: none"> Policies, institutional models and support strategies at basin level improved in Benchmark CP and CA basins Organization of World Water Week influenced the Agenda and outcome.
IWMI				
ICRAF	<ul style="list-style-type: none"> Panel noted erosion of technical base in agroforestry. ICRAF has unique comparative advantage in policy relating to agroforestry systems Dispersion and tendency towards the development end of the research-development continuum. Should develop a comprehensive framework linking agroforestry to livelihoods. 	<ul style="list-style-type: none"> Test integrated technical, institutional and policy interventions on a problem or geographical area Science-Policy linkages in climate change, biodiversity, watershed management, health and nutrition 	<ul style="list-style-type: none"> Papers and strategic communications to international conventions, United Nations fora , 	

Insofar as these examples are representative of the “policy” research being done there is integration of technical and socio-economic information in understanding the constraints to uptake of technology and other innovation. Analytical results are shared in a number of fora; where the center has the convening power for a major event (IFPRI 2020, IWMI WWW) the reputation and strategic position of the center is enhanced for future collaboration. However, when it comes to attribution of policy changes to research by a center there is no counterfactual: what would have been the policy in the absence of the

center's research. Evaluators can fall back on informed observers, citation indices or obvious use of excerpts from center documents in official policy texts.

Databases and Information: Maintaining the Capital of the CGIAR

The meta-evaluation team has noted that EPMRs take a "center-centric" view of the databases created and maintained by the center. Annex 6 provides a table of significant observations on databases found in the 11 EPMRs.

In this section we focus on the efforts by centers to stay up-to-date in the collection and use of scientific information.

Following the approach used in previous sections, we highlight examples from the 11 EPMRs to identify issues which are raised at the center level but may have wider implications at the System level. As is often the case, some of the problems may have solutions in the making through communities of practice, collaborative arrangements among centers or (more recently) the System Office.

The meta-evaluation team makes a few operational assumptions about the importance of databases and information in the performance of science and in maintaining the comparative advantage of a center:

1. The ability to share and trade information across distances and institutions is fundamental to the practice of science today.
2. Innovation will come from many sources outside the traditional agricultural knowledge institutions.
3. While databases may be potentially international public goods, issues of intellectual property will be increasingly important (and are hopefully being dealt with at numerous levels in the System). Centers have diverse policies on the sharing and release of data. At the operational level the holders of data trade in an informal market.
4. Commercialization of data or the sale of services using or modeling that information is unlikely to be a sufficient source of revenue to ensure sustainability of the database or provide full cost recovery of the service. This occurs because of the nature of the demanders of the service as donors or NARS partners.
5. Recommendations for a center to improve the supply of information need to be linked to the capabilities of partners and the nature of demand for the information.

Our findings are based on observations coming from the various review panels. Annex 6 summarizes in tabular form some of the evaluations made and prospects seen by panels for key databases.

Observation from the EPMRs:

1. While databases are potentially the quintessential international public goods of the CGIAR, they are subject to underinvestment if left to the initiative of individual centers.
2. The priority of a given database is frequently questioned at the time of EPMRs (e.g. SINGER, ASTI, FishBase) from a narrow center-specific cost and benefit return where the costs are known and the benefits are less tangible.
3. The creation of databases requires a large up-front investment in creating standards and “interoperability” with partners.
4. The maintenance of the database (and upgrading of the associated tools) requires continued investment. (IRRI’s prominence in rice genomics was challenged by advances in major countries and the private sector. Its response was to emphasize its role as a “translator” and broker of information. ICARDA and ICRISAT were praised them for rapidly upgrading their capability in modern biotechnology and maintaining unique databases on their less known mandate crops. IPGRI is challenged to produce “gold standard” methodologies for handling of information.
5. Centers are asked to (and are praised for) “unique and immensely valuable databases” (e.g. ICRISAT and ICARDA databases on the less-researched mandate crops).
6. Development and maintenance of databases and GIS applications may be seen by some scientists as services more than as producers of scientific outputs (e.g. according to the ICRISAT survey of staff) yet they are used widely by people who do not recognize their origin. (The CIMMYT review notes that more than 80% of presentations at the annual program review used GIS outputs).
7. There are several issues that arise in the use of databases:
 - o The use of the databases outside the System is often poorly noted and undervalued by the System, particularly if the user is not in agricultural research (e.g., ILRI poverty mapping used by Bureaus of Statistics and Planning Offices).
 - o The pressure to use the data and link it to other models internally is justified (e.g., ILRI’s linking such poverty mapping to household decision-making models in livestock systems or linking genetic resources, crop improvement and NRM).
 - o Intellectual property, rights of partners and populations studied, and delays in the release of databases pending “first use” still need to be worked out in many centers. (IFPRI has a formal policy.).
 - o The importance of having first use of the information (along with partners) is critical to the maintenance of a center’s position as a “partner of choice” and leader in the field. It provides a currency of exchange.
8. The attempt to measure a phenomenon changes it⁹. The existence of a database calls forth new uses. IWMI’s technical modeling provides the basis for it to do “more analytical and cross-disciplinary research.” CIMMYT is encouraged to combine data from plant breeding, conservation of Genetic Resources and socio-economic studies. The relative ease of applying quantitative methods to priority

⁹ This popular corruption of the Heisenberg Principle argues that once you have attempted to measure a phenomenon the demand to improve the measurement is strong and the way the phenomenon is viewed changes. Moreover, the demands to link it to other phenomena almost always follows.

setting in commodity research has made it more difficult for NRM and policy research to demonstrate impact. Yet the attempt to do so is leading to more rigorous conceptualization of the problem.

Given the public good failure problem facing databases, the review team sees this issue as a dog that didn't bark. The Science Council is well situated to lead the design and adoption of policies, mechanism, and incentives maintain the capital stock and flow of services that the CGIAR can derive from its databases and modeling. Most of the recommendations for additions, improvements and new integration of tools presume that there are resources for the preservation of such public goods and some of the System's databases are at risk.

It should continue to support the development of evidenced-based approaches that can be used in the evaluation of non-commodity research.

Section 3: Managing Complex Interactions: IPGs, Partnerships, and the R-D continuum

Introduction and approach

This section draws on some key statements or summarizes key ideas expressed in the EPMRs with respect to a) the nature of IPGs in that center, b) activities in natural resources management, c) partnerships and capacity building in the center's approach, and d) where the center positions itself on the research-development continuum. The objective was to see if some insights into commonalities and important cross-center differences could be identified about the way different centers approach an issue or the way that centers relate the four issues¹⁰.

The hypothesis was that clear patterns or clear divergences would suggest areas where the EPMR could pay special attention. Panels were generally clear about the nature of IPGs that a center should be producing based on its comparative advantage, range of partners, and the problems it is addressing. Natural resources management was included because of the complex nature of relationships required and the traditional difficulty it has had in demonstrating impact (c.f. stripe review). Where a center positions itself on the research-development continuum is a function of many things: donor incentives (or pressure), the need of partners for capacity building as well as IPGs, and alternative sources of supply.

Assumptions

Our unit of analysis was the 11 EPMRs with their discussion of issues before the Science Council had published a number of scoping studies and meta-reviews. Therefore, the analysis highlights the way that individual panels converge or diverge on key issues and contribute value to the review processes that exist in the System. However, we assume that they have all started from a position of alignment with the following propositions:

1. The centers are in the business of reducing poverty; their comparative advantage in contributing to poverty reduction is the provision of international public goods (or significant regional public goods).

¹⁰ A table of excerpted information from the eleven center EPMRs relating IPGs, NRM, Partnerships and R4D was considered too long to include as an annex but it is the basis for observations made in this section.

2. There are few “pure public goods” which fact gives rise to different interpretations of the “publicness” of centers’ outputs. This raises questions about its usefulness as a “zero-one” variable in allocating resources.
3. The CGIAR is committed to producing IPGs “in partnership” where it can exploit both its comparative advantage and collaborative advantage.
4. A center cannot choose its “position on the R for D continuum in isolation; this results from the interplay among donors, partners, other stakeholders and the center. The location of its activities, organizational structure and nature of work are simultaneously determined by its goals, partnership arrangements and funding.
5. Research increasingly involves partnerships with groups that have not been traditionally considered part of the agricultural knowledge system (ICT, life sciences, health sector and non-agricultural faculties).

EPMR observations on International Public Goods.

Based on the information extracted from the reviews and included in Annex 8, we put forward a number of observations with respect to IPGs, partnerships and positioning on the R for D continuum.

Observations for all centers are:

1. Comparative advantage must be viewed in a dynamic way: it can be created and lost. The comparative advantage of a center derived from its international and public character, its reputation for quality, and its fairness as an honest broker can be compromised by its actions.
2. A center must be prepared to go where it still maintains a comparative advantage or can create one.¹¹
3. Project the Institute geographically with a limited footprint based on the demand for your IPGs¹².
4. The expected IPG output of a project should be defined at the research protocol stage and treated as an objective of research and not as a desirable by-product or add-on. (The corollary for donors is that budgeting time to write up the public-good scientific paper and resources for training of partners need to be adequately included in projects.

¹¹ While the EPR Panel felt that CRISAT lost its comparative advantage in NRM research in Asia, largely due to the rapid growth of Asian partners, it had much to offer NARS in Africa and should consider moving its headquarters to Africa).

¹² (ILRI’s strategy of projecting itself to Asia through application of its system approach with selected partners was seen as a good strategy for a center with limited resources. On the other hand, the ICRAF review pointed out the dangers of expanding geographically with dispersed offices, attendant overheads and risk of diversion of resources from IPG production. The era of the “regional office” is giving way to the project-based nodes.

5. The use of refereed publications in internationally refereed journals as the most common indicator of public good output has not been satisfactory to panels and centers alike. However, panels have tried to choose a meaningful comparator organization based on size, resources, and nature of research. Paradoxically, they then use the same indicator across scientifically different divisions within the same institution which is conceptually as difficult as comparing all institutions on a single measure.¹³
6. Focus is essential. “The future development of the CGIAR is to position itself on a limited number of IPGs in an environment where more players are competing (IWMI panel).

Policy-oriented centers received the following advice on IPG development:

1. Establish strategic partnerships with a limited number of ARIs (top-tiered universities) and prioritize partners for their ability to generate IPGs (IWMI). This implies that the center is also willing to invest in the generation of primary data and information that makes it a “partner of choice.” (WorldFish, IFPRI).
2. Centers usually have “niche” areas that they should exploit (e.g. IPGRI’s niche in studying the complementarity of conservation and use of PGR; IFPRI’s application of state-of-the-art tools for meaningful policy analysis using a mixture of publicly available data and information generated by IFPRI).
3. Synthesis and awareness materials may be considered legitimate IPGs given the mandate and role of the center (CIFOR). However, this may come with an admonition that the center is not making its contribution to the world of Science. (CIFOR, ICRAF)
4. Understanding innovation processes and constraints to “up-scaling” can be generated through comparative cases studies. Unfortunately few of these studies are consciously planned and funded as comparative studies (for which donor funding is scarce. When IPG knowledge is mined from ad hoc studies the reliability of the comparison is less and the effort is often an add-on to development-like activities rather than the principal output.
5. The development and application of tools can be a created comparative advantage and investment is needed to maintain it. EPMR’s have recognized this in several cases, have called for maintenance of the comparative advantage with focus on the work of the center. For example, IPGRI’s lead in database management (a tool) should remain focused on PGR for impact. While the panel wonders if the comparative advantage of IFPRI in developing models will shift to universities, it sees a continued comparative advantage in the application of such tools and the synthesis of its own original information with others’ information as a real IPG.
6. Centers must create IPGs in their area of expertise. “To be partner of choice (or even remain a partner) WorldFish should have very efficient roots in some selected ARIs in order to be really a co-producer of basic knowledge of interest

¹³ The PMS is introducing indicators for different types of publications that will adequately represent the work of different centers. Since an indicator is useful in measuring magnitude and direction of change, there might be value in negotiating center-specific indicators that the EPMR can use for evaluation of the center over time.

and to be so at the first place to use them.”¹⁴ Commodity and systems-oriented centers were generally encouraged to return to their core business or niches where they have a comparative advantage:

1. In commentary on CIMMYT, the Science Council re-emphasized “to all stakeholders the critical and vital role of germplasm-based gains in productivity, maintenance of past gains and risk avoidance in the overall CGIAR.” The EPMR of ICRAF noted a previous comparative advantage in soil-related research, modeling and property rights and noted that the [increased] emphasis on socio-economic research resulted in a “reduction in upstream and output of IPGs in the form of technologies, technology systems and scientific publications.”
2. The EPMR of IRRI noted the competition to IRRI’s lead in the genetics of rice coming from advanced research institutes in the developed countries and emerging countries such as China. One solution was for IRRI to assume a new “broker” role “to coordinate all the relevant information and see that it is made available to empower all via web-based systems.” To do this, it would have to maintain its genomic work at the cutting edge. This same principle was expressed by another panel which argued that once you lose your cutting edge, you fall into a consulting mode where your currency is rapidly devalued.
3. ILRI was encouraged to exploit the technological advantage created by BeCA but not allow the tool to drag it into service functions outside its mandate which would push it into a service role on new diseases rather than a producer of IPG research on vaccines. Its geographical extension would be done through selective application of its systems approach in which biophysical research was part of the process.

The ecoregional centers were reminded of their technical base:

1. The panel noted that ICRISAT’s best opportunity for IPGs is through the “full deployment of its biotechnology competence.” To do this it had a continuing interest and comparative advantage in working in India. The panel also commented that ICRISAT had not transferred IPG knowledge to Africa from its NRM work in Asia. An effort to do this was needed since ICRISAT no longer had a comparative advantage in doing this type of work in Asia where local NARS and NGOs were potential purveyors of such knowledge outside.
2. ICARDA was praised for its catching up on genomics and encouraged to bring biotechnology and crop improvement closer together. However, the panel did not see the analysis of “knowledge pathways” coming from its research for development projects as a major IPG where they had a comparative advantage vis-à-vis other organizations.
3. The ICRAF-African Highlands Initiative was investigated specifically for its downstream with a number of countries. As an ASARECA network (as well

¹⁴ This rejoins the discussion of databases as a renewable capital of the CGIAR

as ICRAF program) it potentially ran the risk of being pulled away from IPG research. The panel concluded that AHI did make a number of methodological achievements in both biological and social domains (and more than were documented in publications).

EPMR observations on natural resources management

NRM, as one area of research in the CGIAR, has always been difficult to assess. Some general principles coming from the reviews are:

1. In the policy area, the impact of NRM research is difficult to demonstrate for a variety of reasons: its long-term nature, multi-actor multi-sector approaches, and problems of attribution of output and credit to partners. (ICRISAT)
2. The proposed joint effort of CIFOR, IWMI and WorldFish to develop a methodology for impact assessment was praised.
3. The integration of genetic, environmental and economic information remains the “holy grail” for commodity institutes (ICARDA, CIMMYT). Its use at a more macro level in national and regional planning is beginning.¹⁵
4. The work in NRM is one of the first to incorporate aspects of gender and poverty alleviation. The relationship between access to resources, gender and poverty is central to resource-oriented centers (CIFOR, ICRAF, WorldFish)
5. A commodity centers such as CIMMYT was urged to remember that its primary contribution was in germplasm enhancement and to leave crop-livestock interactions, INRM and “livelihoods analysis more broadly” to other actors.

The two ecoregional centers were challenged to see what IPGs could be transferred from their home base to other geographical regions of their mandate areas (e.g. ICARDA in dry areas other than CWANA, ICRISAT from Asia to SSA). In the case of NRM, it raises the question of the location specificity of their knowledge.¹⁶

It is logical that two resource-based, IWMI and WorldFish, work together to develop a methodology for evaluating the impact of NRM research since the difficulty of quantifying impact puts them at a perceived disadvantage vis-à-vis commodity research.

¹⁵ IFPRI blends multimarket modeling with the GIS tools of its spatial analysis group, crop modeling and economic surplus analysis to identify “development domains” for strategic planning at the national and regional levels in SSA.

¹⁶ Does ICRISAT’s knowledge of water management in areas of highly intensive production translate to Africa? Does its strength in the exploitation of a major dataset on community development in India constitute an IPG lie in the applicability of its technique or in the understanding of the process of development?

Issues in inter-center collaboration having system-level significance

Modern science is carried out through networks and actors distributed around the world. Scientists have a propensity for collaboration if institutions do not get in their way. The EPMRs have made recommendations dealing with inter-center collaboration, collaboration with NARS partners, and advanced research institutes.

Enhanced collaboration cannot be implemented by one center acting alone. Therefore, the issue of collaboration and better partnerships has system-level significance. Centers may develop partnership principles (most have formal policies) but the policies and incentives need to be put in place at a higher level. The Task Force on Sub-Saharan Africa demonstrated the degree to which collaboration issues are systemic and not individual. Donors such as CIDA make multi-stakeholder engagement a key element in their support; and Challenge Programs are designed to facilitate increased collaboration. New institutions such as the Alliance are built around collective action (e.g. regional plans) and rules and mechanisms such as the Alliance policies and practices are created to support such action. The evolution of Sub-Regional Organizations in SSA demonstrates the need for structures or mechanisms to interact with them on a continuous basis.

Inter-center collaboration appeared specifically in recommendations with respect to:

- WorldFish's expansion to Africa could be done in collaboration with IITA, WARDA, IRRI and CIFOR
- ICRAF should phase out its field office in LAC and maintain presence through the Amazon Initiative
- CIMMYT should collaborate with other centers through joint appointments
- IPGRI should collaborate more closely with CIFOR and ICRAF on their shared agendas (including forestry resources databases)
- ILRI's hosting of BecA offers great potential as a platform for the ECA region (and beyond) but should not expose ILRI to excessive financial risks
- CIMMYT and ICARDA should rationalize and stabilize their relationship on the basis of their new MOU

The final bullet is only one example of several cases of overlapping regional mandates and global mandates that need to be addressed at the System level. Their appearance as continuing issues in successive reviews indicates systemic problems more than bilateral problems to be solved by MOUs. Actions to rationalize research support and administrative operations (IRRI-CIMMYT; WorldFish-IWMI, ICRAF-ILRI, IITA-WARDA) are part of a higher-order discussion of System reform and are commented upon separately. While these issues may be mentioned by the panels it is usually to declare them beyond the TOR or competence (in a juridical sense) to deal with.

Observations on partnerships and capacity building

Partnerships and capacity building have often been opposite sides of the same coin. However, recent reviews have noted the growing competence of some NARS to provide IPGs and RPGs as alternative suppliers. This changes the role of the centers and the relationship of the partner to that of strategic ally or potential competitor.

A few key conclusions expressed in the individual reviews highlight continuing tension between the production of IPGs, the meaning of good partnership and the position of center activities on the research-for-development continuum.

1. “Partnerships need to support, not drive, strategic research programs” (ICRAF EPMR). Centers should choose their partners carefully according to their ability to contribute to the development of international public goods. The center should develop a partnership strategy. (IWMI).
2. The need for a few strategic partners in ARIs is necessary if centers are to maintain their cutting edge (or even to remain serious players in the game) in the face of growing strength of partners, particularly in Asia.
3. Centers may need to form partnerships with other organizations to facilitate the uptake of their findings without becoming involved in the extension process.
4. Capacity building of partners may be necessary to help the center exit from downstream development. (NGOs are looking for capacity building in linking to science, governments are looking for policy frameworks, and research institutes and universities are looking for training and applied research).
5. Capacity building should be explicit in all projects and reported on as a discrete outcome.
6. Partnerships can contribute significantly to a center’s ability to raise funds and contribute to science. An ICRAF CCER highlighted the benefits from working with pro-enterprise NGOs.
7. Partnership is not a magical solution. Some EPMRs note that it may take more resources to achieve production of an IPG through partnership than by working on one’s own.

Observations on the research for development continuum

Where a center should be situated on the research-development continuum is a question raised in all EPMRs. While most EPMRs caution centers about neglecting IPG production to engage in the enthusiasm of development, there are only a few examples where a center is actually said to have “breached the IPG obligation.” The nuanced language of the EPMRs, which “caution” rather than “recommend” may demonstrate a closer appreciation of the trade-offs a center must make to be a good partner, build capacity and have impact regionally while producing international public goods for global science and peer organizations.

Essentially the centers must position themselves to thrive in the following environment: 1) in the CGIAR as a research system funded by development donors, 2) achieving the goal of poverty reduction through the production of international public goods, and 3) adopting decentralization/regionalization in response to partner needs and funding opportunities, and 5) establishing the partnerships required upstream and downstream to ensure cutting edge science and uptake of their public goods. Each of the reviews has come up with principles and suggestions that help centers resolve this debate at their own level

The following observations come out of our reading of the EPMRs:

1. The EPMR panels use CCER and other information effectively to make fine judgments across programs within the same center. For example, the CIMMYT review cautioned the center about "expanding its livelihoods agenda at the expense of crop improvement" while encouraging CIMMYT's efforts to improve seed delivery systems in SSA. Both types of activity bring the potential of getting drawn into development applications.
2. ICARDA and ICRISAT both have accumulated experience with seed systems and have been alternatively praised for their knowledge and cautioned against getting too far into "delivery of seed." ICRISAT was asked to rationalize the role, scope and objectives in generating IPGs in sustaining seed supply systems for productivity.
3. ICARDA was said to have a "tendency of getting too involved in its regional work at the expense of research more relevant to dry areas globally" as well as its engagement in "post-conflict reconstruction with little research."¹⁷
4. The ICRAF panel made some nuanced judgments across activities. While ICRAF was generally cautioned against being too far down the research for development continuum, the panel clearly noted that whereas the "earlier ICRAF was engaged in extension, [the EPMR panel] found this is rarely the case now."
5. The IRRI panel argued that "...at all steps IRRI should collaborate with whoever, upstream or downstream, has the skills and comparative advantage to contribute to the delivery of the selected products/services."
6. IFPRI's EPMR panel saw the growth in country support efforts as creating a danger for its generation of public goods. However, its application of its tools and information is recognized in "policies that really matter in developing countries."
7. ILRI's approach to "enabling innovation" both as an approach to its systems work and for itself internally is timely (if only as part of the ebb and flow between holism and reductionism). Its leadership (on behalf of the Alliance) to develop a regional plan for collective action faces all the issues of incentives and resources for generating and enforcing good System behavior.

WorldFish's "knowledge system" approach opens a discussion of the way that science will be done in the future in both a decentralized way through partnerships and alliances. The panel noted that a center which views itself as a linchpin in a research-to-development value chain may be assigning itself a role that becomes obsolete in the future.

¹⁷ At the time, there was high-level encouragement of ICARDA to be involved in "regional work." In a relatively short period of time, the System was looking for leadership to mobilize initiatives with the research systems of the former Soviet Union (specifically to protect the databases of Central Asian and the Caucasus). There was strong donor pressure to move quickly on Afghanistan before the region became destabilized.

Embedding Research for Development in an Innovation Systems Approach

The meta-evaluation team noted that the EPMRs can almost be dated by the particular concerns they emphasize. In some cases the panel elaborates an issue that is of emerging importance and its thinking becomes a benchmark for further elaboration by the Science Council and its committees. It may be that the panel composition intentionally included a person who would move the discussion to a higher level. It is only in the later EPMRs in 2006 that the concept of innovation systems appears in rudimentary form. Partners in regional organizations (e.g., ASARECA, FARA) are formally using the concept. It is useful in analyzing the relationships with which the System is wrestling, including the research-for-development continuum.

Many recommendations made to individual centers implicitly make assumptions about the behavior of other actors inside and outside of the CGIAR System. The use of an innovation systems approach will bring together discussion of policies, institutions and incentives needed to support a System vision. Some of the panels have indicated that a given issue lay beyond the terms of reference of the EPMR. Their absence from the reviews may indicate the need for system-level action or encouragement.

The first thing that becomes clear is that there are many relationships that are simultaneously determined. These include:

1. The incentives for a center to international public goods (or in some cases important regional public goods)
2. Strategic decisions by a center where to create a comparative advantage or build on a collaborative niche (recognizing that existing advantages can be lost).
3. The center's strategy for partnerships not only to promote the uptake of IPGs but to participate in their creation. The choice of partners plays an important role in creating a "complementary advantage" (the synergy among partners that the CGIAR can create by its facilitating and broker roles).
4. Resource mobilization strategies and trade-offs that may affect the balance between IPG-producing research and other types of research-related activities (capacity building and application).

The choices that a center will make in all these directions will be different for NRM research, genetic enhancement and policy and socio-economic research.

There are two EPMRs where the panel has made important contributions leading in the direction of an innovation systems approach. ICRAF has attempted to describe the Research-Development-Application continuum in terms of the products produced and the components of the research and development system that have a presumed comparative advantage in carrying out the work.

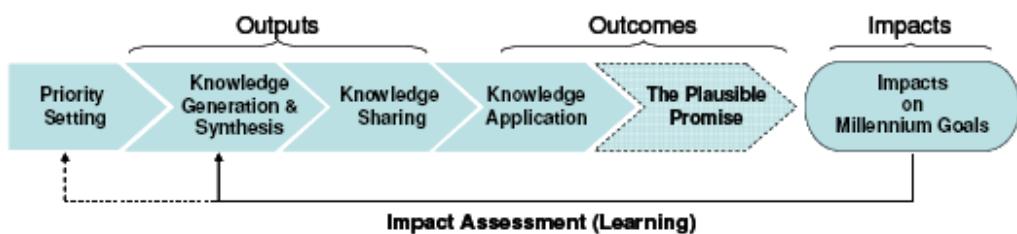
The Research/Development/Application Continuum					
Activity	Research		Development		Application
	Pure Research	Applied Research	Adaptation	Capacity Building	Resource Management
Product	Basic understanding	Tools, technologies, technology systems	Local modification of technology	Publication; education and training materials, training trainers	Promotion, participatory scaling up, monitoring outcomes and impacts
Location	Universities in developed countries, ARIs	CGIAR centers and some NARIs on-station	CGIAR centers and NARIs on-station and on-farm	CGIAR centers and national institutions	
	Research for Development		Scaling Up		

Since there is no innovation without application the innovation system will have to understand and perhaps carry research into the processes for application, but current thinking of the Science Council sees these activities as falling in the comparative advantage of alternative suppliers/partners such as government extension and NGOs.

The EPMR panel of WorldFish took note of the “Research for Development Value Chain” presented in the Strategy Update (2005) and this was commended by the Science Council for its help in positioning the center on the research for development continuum.

The EPMR panel noted the rapid growth of partners in the Asian region who were becoming potential competitors in some domains and the position of WorldFish as a link in the continuum could become obsolete.

Figure 2.2 The Research for Development Value Chain (Source: WorldFish Center Strategy Update 2005)



The EPMR panel noted the rapid growth of partners in the Asian region who were becoming potential competitors in some domains and the position of WorldFish as a link in the continuum could become obsolete.

The panel went further and made a contribution to the debate by putting forward a Knowledge Systems Approach. This effectively moves towards an innovation system paradigm in which multiple partners from different levels and different sectors are part of the knowledge system. It emphasized the two-way flows of knowledge between the center and ARIs and the center and partners and among all actors. The panel then elaborated impact pathways in the R-D continuum and called for WorldFish to position itself in the knowledge system.

The Science Council called for further articulation of this issue by the center.

The review team has noted this discussion in somewhat greater detail for two reasons. First, the EPMR panels have added value to the discussion of how centers balance decentralization, the production of international public goods, and relations with partners. Second, the framework will be useful in the broader discussion of CGIAR System reform.

The review team sees these discussions as presaging a future elaboration of the innovation system as a framework for strategically positioning a center in the global system. EPMRs sometimes make seminal contributions to current debates in the CGIAR through their analysis of issues in a center-specific context. These contributions can be counted among the external economies of the EPMRs as part of an integrated evaluation system.

A next step would be for the Science Council to elaborate further the use of the innovation systems approach and to identify benchmarks that can be used to show the progress of a center and the System itself. This would allow it to include a section in its guidelines for EPMRs on the identification of issues requiring system-level action as a result of this analysis. Panels would then be asked to provide recommendations for action by donors, the two secretariats and the Alliance on how to solve such issues in a systems framework.¹⁸

¹⁸ The team is indebted to John Lynam (Kilimo Trust) for a thought-provoking comment on why some of these issues remain unresolved. The Ford and Rockefeller Foundation programs that led to the Green Revolution were premised on the notion that agricultural technologies could not be transferred from the developed, temperate world to the underdeveloped tropical world, that is agricultural technologies were not international public goods. “The IPG output of the CGIAR might include scientific papers (knowledge), research methods such as breeding methodologies, research tools such as decision support systems for NRM, databases, germplasm banks, genome sequence data, and, in essence all the “infrastructure” that is needed to undertake research that focuses on defined technological products...it is regional public goods that are the core of what the CG does and where impact pathways can be adequately defined. Are we trying to fit a round, regional public good peg into the square, IPG hole? A guess would be that eighty percent of what CG centers do focuses on regional public goods, and where large countries in Asia and Latin America are becoming capable suppliers of such regional public goods.” (Personal Communication).

Reflecting on the findings of recent EPMRs we see that 1) true IPGs such as databases are difficult to maintain, 2) the “international” versus “regional” content of NRM research continues to be debated (ICRISAT), and 3) ILRI was advised to project itself to Asia through its systems approach (that incorporates its animal genomic work as one element to be applied in a regional context). These are examples where the IPG component is only one part of what the center brings and possibly is the most difficult to get funded and the output will be application of an IPG in a regional context. Lynam cautions that as currently applied

in developing country agriculture, the innovation systems approach may be antithetical to the production of international public goods but would be more effective in utilizing IPGs to produce adoptable technological or institutional innovations.

Section 4: Management, Finance and Governance

Introduction

Over the course of the four years within which the EPMRs under review were conducted, there was a noticeable difference in the focus and level of scrutiny given to management, finance and governance. In fact, relying only on a close reading of the management and governance sections of the reports and not referencing the dates of the reviews or the composition of the panels, it is possible to sort the EPMRs in approximate chronological order based both on the increasing breadth of the assessments in these areas and on the issues that came under scrutiny.

Among the 11 EPMRs, two can be seen as pivots, instances where the analysis, triggered by the severity of the centers' problems, shifted the framework within which subsequent reviews of governance and management were conducted. The ICRISAT EMR and CIMMYT EPMR, for good reasons, are notably tougher, franker and more detailed in their assessments of these areas, and each contributed to changing the level and completeness of the reviews that followed. But, even in the absence of these "hard cases" and the lessons they yielded, there is an appreciable shift over the four years in question in the way EPMRs examined the quality and effectiveness of center governance and management. For positive reasons, not just an aversion to future failure, the EPMRs evidence a more active and critical interest in the quality of governance and management.

A number of factors undoubtedly account for this. Externally, the scandals in the corporate sector that led to reforms in corporate governance and accounting practices sharpened the attention of both the business and not-for profit sectors to the power these functions had to affect not only performance but also the confidence of the marketplace and the public's trust. Equally influential was an increasing interest in the characteristics of effective management and leadership in a fast-paced global economy and technologically "flatter" world. Within the CGIAR, there was a parallel increase in emphasis on evaluation and transparency, the articulation of standards and guidelines for critical financial, HR and governance practices, and the development of deeper resources to improve performance. Technology, combined with collaboration, has made it possible to achieve real economies of scale in the standardization and adoption of common platforms for such things as financial management and HR, and good sense as well as necessity has given rise to shared services, such as an internal audit unit, and collaboration among centers in a range of administrative and support functions.

In identifying common issues across the EPMRs as well as issues with system-wide implications, the reviewers have chosen to focus less on the frequency with which certain governance and management issues appear in the reviews than on those that seem both "chronic" and meaningful. It does not seem useful in this analysis, for instance, to note the number of times the problematic size of the board is cited in the reviews. This is a lesson already learned, and, as a result of the CG System's effective and systematic

efforts to encourage contemporary best practices in governance, is increasingly a non-issue for center boards in terms of their effectiveness. It does seem useful to note the regularity of attention paid to noted shortcomings in the composition of the board because of the way in which the talent, expertise and influence of board members contributes significantly and on an ongoing basis to strategy formation and oversight.

Management

Management structures/matrix management

New and revised strategic plans often generated new staffing plans that elicited a range of reactions among the EPMRs. Some EPMRs questioned the functionality of structures shaped more by region than by theme or discipline (ICRAF), or that spread research scientists among too many projects, diluting focus and capacity while also creating challenges for time management and accountability (CIMMYT, IFPRI). Genuine questions emerged about the impact of the structures on managers' roles in priority setting and both the development and allocation of resources, particularly when the structures left managers with reduced influence with respect to these two critical functions but still accountable for results.

In a handful of EPMRs (IWMI, WorldFish, ILRI), there appeared to be a gap between the experience (and comfort level) of reviewers with more conventional management structures—organized by project or by discipline with clear hierarchies in place—and their assessments of the more flexible structures they found in place. Typically these structures depend on a high degree of team work and collaboration among managers to achieve effective planning, delegation and accountability, and necessitate investing in the development of new skill sets among managers. It is worth noting that the three centers where the perceived gap seemed to occur were among the most recent of the EPMRs (all 2006) and also, at the time of the reviews, led by DGS characterized by the panels as dynamic and forward looking.

Management capacity

Within the reports, the management structure was evaluated at multiple points—analyzed in the evaluations of science quality and the research portfolio as well as in the evaluation of management. This created modest differences in the perceived strengths and weaknesses of structures and their impact on capacity. When included in the program area, the assessment was frequently accompanied by expressions of concerns about the amount of time research scientists devoted to resource development or to administration or internal committee work (IPGRI, IFPRI, IWMI). In the IFPRI EPMR, this was nicely captured as a “time famine” for the research staff.

Although the resource development issue is explored elsewhere in this report, the capacity issue being raised is an important one, and leads to further questions about the

need to streamline management functions in order to improve capacity. What may be an under explored question is whether a talent for management lessens the sense of being burdened by administration, and whether centers, given their ambitions and organizational complexity, need to cultivate and reward management skills among those with the aptitude and appetite for them instead of inflicting the tasks on those with neither.

Adoption of Inclusive Workforce Policies

A significant number of centers included in the meta-analysis had modified their personnel policies to create more inclusive frameworks for recruitment, classification and compensation of staff. In some cases (IWMI, CIMMYT, WorldFish), the center had adopted or was adopting the “One Staff” model; in others the traditional classifications that distinguished between internationally recruited and nationally recruited staff were being modified or abandoned to provide staffing plans that looked to qualifications and position rather than geography to categorize and compensate staff (CIFOR, ILRI).

Diversity and gender were carefully measured in each of the EPMRs—a source of continual and healthy pressure to achieve and sustain important equity goals of value to the System and to individual centers.

Results of staff surveys are among the routine information gathering processes that panels undertake and the results are included throughout the EPMRs in various contexts. In the case of ICRISAT and CIMMYT, layoffs and other turmoil resulted in morale issues that were taken seriously by the panels and by the centers, particularly the boards.

In these and other instances, the EPMRs communicate the value of the organizational resource represented by the staff. In general, the EPMRs note a commitment by board and management to develop more supportive HR or people management policies and practices. The HR function and, along with it, a carefully nurtured organization culture that is participatory, fair and respectful for all staff are increasingly valued as critically important to a center’s capacity to compete effectively for talent and expertise, and retain those assets for their long-term benefit.

Finance

Restricted versus Unrestricted Support

If a single common, system-wide issue can be identified in the EPMRs under review, it is a concern with the extent to which centers now rely on restricted support, and the impact of such funding on priority setting, financial stability, and the effective management of projects and staffing. These difficulties are seen to be compounded by the general

uncertainty of major donor support in terms of both levels and timing that to some degree affects all the centers.

Panels fully endorse the undesirability of all this. The observation and analysis of these issues in each of the EPMRs rise almost to a lament but to what end is not clear. This is not to minimize the real challenges that changes in donor expectations or demands create. Nevertheless, no amount of complaining or pointing out the challenges of this trend is likely to change it. In addition, there is little evidence that the commentary in the EPMRs has influenced donors, although in fairness, it may buttress the System's advocacy for more stable core funding.

Having raised the issue of restricted support, panels consistently missed an opportunity to look at the center's ability to control, navigate and compensate for this situation. In only a handful of the reports (ICRISAT, ILRI, IPGRI) did the EPMR analyze the number of grants, the average size of the portfolio or look at the cost of grants management relative to the size of the grant. In only one EPMR (ILRI) did the panel look closely at the average life span of the portfolio relative to its overall value. Increasingly, these analyses are important as a way to measure a center's ability to develop a coherent and effective resource development strategy, sustain the momentum of key activities, and leverage the time and talent of staff.

Similarly, only a few EPMRs included a detailed discussion of a center's efforts to achieve full cost recovery for projects, and link this financial management practice to its capacity to budget project costs accurately, reduce its overhead rate and free core funds for strategic programmatic investment (CIMMYT, IFPRI, ILRI). Those in which this analysis or something like it was made were conducted most recently and may reflect a shift in perspective among the governance/management and financial members of the EPMR panel, as well as the increasing sophistication of the financial management of the centers.

Resource Development

Although centers and their DGs were often given high marks for their success in competing effectively for funds and, as a consequence, helping to grow the centers and their programs, the EPMRs consistently cited significant shortcomings in resource development—the most critical of which were the lack of effective planning, the lack of good grants management (including budgeting and cost recovery), and the lack of professional staffing.

The earliest of the EPMRs under review (ICRISAT) accompanies its critique of the center's resource development activities with a very cogent outline of the elements of a professional fund raising program—a structure that, with a few notable exceptions appears still to be lacking in centers reviewed two to three years later.

Because of this, it is more useful to note the positive exceptions. CIFOR and IFPRI were cited positively for the results achieved with the planning, organization and staffing of their resource development function. In particular, IFPRI's EPMR noted not only its achievements in rigorous cost accounting but also the adoption of a resource development plan that links to its strategic plan and the way in which resource development is staffed and managed. ILRI's EPMR noted the center's institution of a grants management unit within the finance department that tracks donor reporting requirements and oversees budget development for proposals, which assures that costs are consistently and accurately incorporated. It also maintains good statistics on the grant portfolio under management, with information on both the average age and dollar value of its grants, a critical tool for assessing and managing the vulnerability created by restricted support which the EPMR panel drew on for its evaluation of ILRI's fund raising program.

Staffing of the resource development function in many centers was diffuse, belonging to everyone in one sense but principally to the DG and a subset of senior managers. The EPMRs flagged the lack of professional staffing for the resource development function, while also noting with concern the degree to which the research staff was subsumed by its fund raising tasks. At the time of their EPMRs, ILRI and ICARDA were both recruiting for a dedicated position to increase the focus and quality of resource development and manage it more thoroughly throughout the center.

Although there are significant downsides to restricted support, including the potential loss of control over priority setting and the time consuming nature of the fund raising process itself, on the basis of budget growth, the centers would appear to be persuasive in making the case for support. Because of the benefits that better planning and more professional staffing would yield, it is all the more compelling to see how undeveloped and lagging the resource development function within the centers is when compared to comparably sized institutions in the U.S. and the U.K., for instance.

Financial Management and Accountability

Over the course of the period under review, EPMRs look more closely and in greater detail at financial management systems, the development of risk management policies, and internal as well as external audit functions. Although EPMRs conducted prior to CIMMYT took adequate note of financial management issues, the CIMMYT EPMR shifted and broadened the framework for this aspect of the reviews.

In addition to the hard lessons taught by first ICRISAT and then CIMMYT's financial problems, the financial management and accountability functions have benefited from the impetus provided by the changed climate for accountability in the external environment and system-wide developments within the CG, including the increasing availability of common tools and platforms and comprehensive efforts to define standards of practice and provide support for achieving them.

The increased scrutiny of financial management and accountability in the review process is positive in and of itself; more important, the positive nature of the majority of the assessments subsequent to CIMMYT demonstrate how responsive the centers and the System have been to learning from the experience of others.

Governance

Framework and Quality of the Governance Assessment

The EPMRs under review reflect a progressively more focused and critical assessment of the effectiveness of the centers' boards. The ICRISAT EMR, the earliest of the reviews included in the meta-analysis, included a comprehensive and telling assessment of the board that appropriately focused on issues with a material impact on the board's effectiveness—the dominance of host country representation, the infrequency of board meetings, the lack of complete and accurate corporate records, and poorly structured committees.

The ICRISAT review occurred at an interesting moment in the trajectory of corporate governance reform. The focus and framework of the review reflect the CG System's long standing efforts to improve the centers' governance through a combination of guidelines and educational opportunities. The EMR is firm in its assessment but is also characterized by an assumption that the will to change would come from an internal desire for it rather than outside agency or pressure.

Subsequent EPMRs begin to bring other forces to bear with respect to governance, first the external lessons and prompts provided by the passage in the U.S. of the Sarbanes-Oxley Act, which established clear and stringent expectations for governance in the corporate sector, and then the urgency and focus within the CG System that followed the financial collapse of CIMMYT, a collapse due in part to the board's failure to provide sufficient stewardship and oversight.

The CIMMYT review included, as an appendix to the report, a discussion of the need to rethink how governance was structured and carried out among CG centers. And, shortly after the CIMMYT review, the CG undertook a system-wide stripe review of center governance (published in 2006), which has had a significant impact on how center boards are both structured and fulfill their duties.

The EPMR evaluations post-CIMMYT reflect the new reality with respect to center governance. The overall quality and thoroughness of the EPMRs in this area have improved, and centers and their boards are more attentive to the assessments and readier to take issue with governance-related recommendations (IFPRI, ICRAF) because they are seen to matter as much to the overall assessment of a center as assessments of strategy and program.

The EPMRs now routinely expand beyond functional assessments of board size, composition and structure to include the quality of information that flows to the board,

the interplay between committees and the full board, the structure and focus of the board's working agenda, the engagement of the board in strategy formation and resource allocation, the approach to board recruitment, and the quality of interaction and oversight of the DG. The assessments of the governance function go beyond the basic standards of practice and look carefully at the governance needs of individual centers.

Board Composition

Although the ICRISAT EMR was critical of the preponderance of board members affiliated with host country institutions, the review commended ICRISAT for having added financial expertise to its board. ICRAF and IWMI were also commended for the inclusion of board members with professional financial and management expertise, and the positive impact of this expertise on the board's underlying capacity to provide good financial oversight.

It was a noted shortcoming in other reviews (ICARDA, IRRI, IFPRI, IPGRI, ILRI). IFPRI challenged this assessment of the board's composition noting the management expertise of a number its members, but as was pointed out in the CIFOR review, where the board could claim a similar level of management experience, "the board should move beyond [broad managerial and financial competencies], and actively seek to add...someone with substantial accounting and financial management expertise, preferably...with CPA/CA qualification."

The more explicit recommendations on this topic in the Stripe Review of Center Governance (2006) will increase the pace and focus of recruitment in this area and should encourage more efficiency and collaboration in identifying a pool of potential candidates who meet the new standard.

The pressure of the stripe review may also improve the centers' overall approach to renewing and sustaining the composition of boards. The reviews frequently noted the lack of explicit strategies and mechanisms for maintaining the balance and expertise of the board through the careful identification of required competencies and the cultivation of prospective candidates (ICRISAT, IPGRI, CIMMYT, IRRI, IFPRI, ILRI). As Cyril Houle, a noted theorist of nonprofit governance wrote: "A good board is a victory not a gift."

Board Oversight of Program Quality and Effectiveness

Center boards have three principal opportunities to exercise their oversight responsibilities for program quality and effectiveness:

- participation in strategic planning and priority setting (including MTPs)
- careful monitoring of resource allocation and use, both financial and human, and

- ongoing review and assessment of programs and activities, most comprehensively through CCERs

Although planning and priority-setting were the focus of the lion's share of EPMR recommendations, the EPMRs do not generally fault center boards for their lack of participation in strategy formation and priority setting. In enterprises as complex as the centers, planning is typically driven by management, with boards involved most actively (and ideally) as informed, engaged but dispassionate analysts, editors and skeptics. Where plans were still current and actively shaping a center's work, the EPMRs showed center management conscientiously bringing matters that related to strategy and implementation to the board, including shifts in organizational structure, the allocation of staff and financial resources and the benefits and drawbacks of major programmatic initiatives.

In those centers where there were pending or recent leadership transitions at the time of the review, the EPMR noted that boards placed a premium on identifying a new DG with the ability to develop a strong vision and plan for the center (CIMMYT, ILRI, IRRI, ICARDA, CIFOR). The level of board engagement in planning is highest at these junctures, and naturally subsides once plans are endorsed and implementation begins to be expressed in annual budgets and MTPs.

At this point, the board's role and obligation shifts to stewardship and oversight. On the evidence of the EPMRs, it is in this role that center boards appear to falter and fall short.

The EPMRs do not dwell on the extent to which boards do or do not engage in active reviews of the MTPs. This could reflect the timing of the board meeting that EPMR panels typically attend, or a general view of the MTP as a perfunctory document. Changes to the MTP process (which, in addition to more rigorous planning and financial information, will provide ongoing monitoring of EPMR recommendations) should raise the position of the MTP in the board's plan of work.

In the EPMRs under review, boards did not lack the raw material for programmatic oversight—the boards are overwhelmingly, often exclusively, composed of individuals with the disciplinary expertise in the sciences to fulfill this responsibility. The problem appears to be one of structure and also of “framing”—the way in which issues are brought to the board or its committees by management. These shortcomings are compounded by the less than fully realized responsibility of the boards with respect to CCERs.

The structure issues hinge on the role and effectiveness of the program committee as a mechanism for providing strong oversight and evaluation of research quality and priority setting. During the period covered by the review, the program committee in many of the centers was in fact or functionally a committee of the whole (CIMMYT, IFPRI, WorldFish, ILRI, CIFOR, ICRAF, IWMI, ICRAF), making meaningless one of the values of a committee which is to dig deeper in a more focused way on behalf of the board, and bring forward results and conclusions that merit the full board's attention or

decisions. Although one program committee/board was commended for keeping the focus on the “right things at the right level”; another was observed to focus more on “doing things right than on doing the right things.” It is the inevitable unevenness of performance that makes such a diffuse structure a risk to the board’s effectiveness.

Two of the EPMRs included recommendations that would attempt to overcome ineffectual or inefficient programmatic oversight by creating a science advisory council/committee with a direct reporting responsibility to the board (WorldFish, IWMI). (ILRI’s science advisory committee is a resource to research staff not to the board.)

The governance appendix to the CIMMYT EPMR proposed something similar but also recommended smaller boards and boards with a greater number of members with financial and business expertise. A board with greater expertise in these areas and with relatively smaller representation of scientific disciplines on board could bolster its programmatic oversight through a small advisory committee with focused terms of reference. But in the absence of a change in the composition, size and underlying agendas of center boards, it is hard to envision how the additional layer of a scientific committee at one remove from a board brimming with scientists will strengthen its overall responsibility for oversight and its performance in this regard.

Structural issues aside, the most significant opportunity for center boards to strengthen their oversight responsibilities is to engage more fully in the process of commissioning and reviewing CCERs. CCERs provide boards with a specific and highly concrete way to exercise program oversight on a consistent and rigorous basis.

Boards were found to be insufficiently engaged in establishing a schedule of CCERS, commissioning the CCERs, determining their terms of reference, or recommending potential consultants. Boards were generally seen to provide an adequate review of the results, including criticizing their quality on occasion. The IFPRI EPMR notes positively the board’s involvement in framing the terms of reference for CCERs and identifying reviewers. IPGRI’s board, in line with the EPMR’s overall positive assessment of the number and utility of CCERs, appears to demonstrate the highest degree of involvement of the centers under review.

Section 5: Emerging Issues with System-Level Significance

System-Level Issues: Definition

Included in this section is a list of emerging issues—things that appear in the reports in a glancing way (or are only raised in the most recent EPMRs), but in the estimation of the reviewers are likely to gain in significance and meaning when looked at in a broader and more forward looking context.

The team was asked, *inter alia*, to identify issues of system-level significance. For purposes of this analysis, we looked for issues where:

1. The issue facing a center is created by System policies, priorities or guidelines that may not be reinforced by unanimous thinking of donors or sufficient resources and technical support for implementation. In some cases, the System “norm” may not apply to the particular circumstance of a center or may require special interpretation.
2. Action is required by parties other than the centers that the CG is able to influence
3. There are economies of scale and scope to be gained by taking action at a higher System level (clusters, regions, System).
4. There are alternative mechanisms for resolving the problem (voluntary collective action, structural actions, resource allocations, and new mechanisms) that involve different degrees of subsidiarity.

The Dogs that Didn't Bark

The EPMRs have the center as a unit of analysis. Therefore, it was not uncommon for an EPMR panel to mention an issue as being beyond the terms of reference of the panel. There were other issues where the panel might have made a recommendation that would best be implemented with higher-level System action.

The reviewers were asked to suggest areas that the EPMR panels may not have covered adequately or that may emerge as significant in reviews going forward. This area is necessarily speculative but the reviewers felt it was important to raise issues that might strengthen EPMRs or encourage center and System attention to them in the future. These areas may also suggest lines of inquiry that the World Bank meta-evaluation team might explore in greater depth with more resources.

Programmatic/Research Issues

Innovation Systems and Organization Culture

The CGIAR was an institutional innovation when it was created: international in nature, simple missions focusing on basic commodities of hungry people and difficult ecologies, producing public goods freely available to all, and attracting the best scientists through excellent working conditions and remuneration. If they had a tendency to become fortresses they reached out through their capacity building and gap-filling activities. While there is still need for some of these latter functions (and they are still prized) research is being carried out differently today.

The team feels there is a need for an innovation perspective at the System level supported by support for mechanisms that facilitate collaboration, partnerships, and still produce international public goods. Three quotes from the ILRI EPMR highlight some of the issues:

[Enabling Innovation] is a difficult Theme to explicate, yet it is central to the ILRI research approach and is an indication of the creative manner in which ILRI tries to meet its wide mandate from a limited resource base....

The ambitious objective of influencing the whole CGIAR was discernable in the panel's interactions with other centers but further comment on this objective is beyond this EPMR....

Overall, the panel wishes to highlight the Theme's success, but also emphasize that the approach is a current iteration of the continual ebb and flow of holistic versus reductionist approaches felt by all open-minded researchers.

The approach involves an "ethos of partnership" but also requires a culture and set of processes that support a more decentralized operation and demand-driven structure. The creation of an "Innovation Unit" attached to the DDG-R stresses that "innovation" is not just an academic field of study but a proposed way of doing business.

Our review of the EPMRs brought out other centers (IWMI, CIFOR, WorldFish) where decentralization, partnership practices, and "IPG tensions" were signaled by the EPMR s. Whether their experimentation with these models was driven by size (relatively small centers), mandate (policy or systems) or a younger generation of leadership could be examined in the World Bank review. The ILRI EPMR panel rightly pointed out that this was beyond their TOR and this is why we see it as a system-level issue. We recommend that the Science Council review the programmatic implications of research carried out an innovation perspective and the way current mechanisms support or hinder such innovation.

There are a few assumptions that underlie this recommendation. It is assumed, first, that science will increasingly be carried out in a decentralized and distributed manner.

Second, the countries that have strong NARS are also more likely to have strong private sectors. Third, the partners are differentiating into emerging countries (which may become partners and competitors) and those that are falling behind. There needs to be a System strategy for dealing with both cases.

At the center level, the EPMR panels have made comments on the internal processes for managing the decentralization (e.g. overheads of maintaining field offices, partner demands, developing synergies across regions within the centers and the difficulties of matrix management.) While the EPMRs alert the reader to the dangers of sacrificing IPG production to decentralized operations they have not strongly criticized a center for “breaching the IPG mandate.” Our review further suggests that the private sector has significant experience in organizing in support of company’s core business and appropriate consultants from the private sector could be brought in to assist centers in designing organizations. (A number of the observations on the management recommendations point out good practices.)

Toppling silos without creating culverts: Shifting structures and culture

At the System level, there is complex overlap of center, Challenge Programs and emerging Framework Programs in support of the System Priorities. At the inter-center level, there are system-wide initiatives, communities of practices and (in SSA) sub-regional plans for collaborative action. Each of these has strengths and weaknesses in a broader innovation perspective. The Alliance has set up conflict resolution mechanisms and some of the conflicts over regional and global mandates have already been resolved through bilateral memoranda of understanding between the affected centers.

At the individual center level, the EPMRs have made recommendations to prevent “cocooning,” usually involving assignment of some of social scientist time to technical programs (e.g. CIMMYT) or the appointment of a DDG-R to break down the silos of Wheat and Maize (CIMMYT). Where a center has taken the initiative, a panel may fail to see a benefit and instead, as was the case with IWM, express concern that “by dropping (its program on) Policies, Institutions and Management, (IWM) lost a niche area.”

The EPMR can play several important roles in improving organizational culture: 1) signaling the importance of staff morale, 2) “providing a basis on which culture can be changed—including those who don’t agree with new directions” and 3) starting a “constructive dialogue that contributes to improving the centers in a way that they will embrace.” Some reviews have indicated clearly that the center’s “organizational culture is suitable to its mission.” The analysis of this issue is one that needs to be studied in greater depth in all reviews.

Management, Finance and Governance Issues

Management structures/management capacity

There is evidence in the EPMRs, particularly those conducted in 2006, that centers are positioning themselves to be more competitive, effective and enterprising in a dynamic and demanding environment. A number of management issues arise in connection with these centers that the review team viewed as nascent with respect to other centers and the System. Within centers, some of these issues may create pressures on existing practices that require some combination of adjustments to practice within the centers, new system-level tools or resources, and the development of new norms or standards. For EPMRs, the changes may signal a needed adjustment to the backgrounds or perspectives of panel members. Among the most compelling management-related issues the reviewers identified are:

- New approaches to management (building and managing multi-disciplinary teams, managing partnerships and collaborations, balancing the delegation of authority with accountability for performance)
- Strategic staffing plans/succession planning
- The changing roles and skill sets required for successful program management
- The changing role of DG as ceo and public face of the center as well as strategist and guardian of research quality and results
- Increased focus on HR (organizational culture, equity, competitiveness, flexibility, performance evaluation, unconventional hiring/staffing)
- Increasingly skilled and professional leadership of the HR function

More of a center's work is dependent on forming and managing teams and successfully serving as a partner or collaborator with other centers or organizations. centers share joint appointments, use fellows and part-time staff to round out projects and increase flexibility and nimbleness. Employment contracts cover shorter intervals of employment and offer more uniform compensation and benefits packages. The complexity of retaining gifted and committed staff is compounded by the increasing number of two-career partnerships and a contemporary family dynamic in which children factor heavily into family decisions and can no longer be considered "suitcases with legs." Even when not faced with the financial necessity of trimming their local workforces, centers must uncover equitable and humane ways to streamline the direct management of sprawling administrative and support activities.

All of these demands and arrangements typically require different skills on the part of management staff and perhaps different perspectives on the part of the EPMR panel members. Management in these structures is more about leadership than administration, and requires skills that need to be cultivated and rewarded. Effective management skills and scientific ability will not always go hand-in-hand nor be equally valued internally or

externally. Yet, these issues will increasingly intersect with the issues of quality and impact, and are challenging issues to evaluate and assess constructively.

The HR function also becomes more important, and so it should be a matter of some concern that in three of the more recent EPMRs under review leadership of the HR function seemed in tumult: vacancies in two instances (ILRI, ICRAF) and in another instance, the appointment of three heads in approximately three years (ILRI). Just as large NGOs must now compete vigorously in the marketplace for talented financial staff—raising both their expectations of candidates' qualifications and backgrounds and the compensation packages needed to attract and retain this level of performance, they are also beginning to appreciate the qualifications and expertise required to provide effective leadership to the human resource function. On the evidence of these three centers, the recruiting processes and the status of the HR director's role in centers may be lagging the marketplace with serious consequences.

Financial Planning/Financial Management/Resource Development

If one value of the EPMRs is to play a role in identifying gaps with significant implications for centers going forward, then some attention needs to be paid to whether some of the more challenging areas of financial management and planning are missing entirely in centers, done poorly or routinely slipping under the radar of the EPMR panels. In addition to evaluating whether the following represent critical gaps in the financial management practices of the center, it may also be worth determining if a comparable gap exists among panel members either because of panel members' background or of the focus and orientation of the EPMR itself.

- Business and financial planning that supports good decision making, minimizes risk, and anticipates needed investments in equipment and facilities
- Capacity of program directors and project managers to develop, monitor and analyze budget information, supported by management information systems that make this possible
- New benchmarking for financial sustainability that considers the full profile of restricted project funding (number of grants, average size, duration), tracks key financial/programmatic indicators to anticipate consequences, reframes the necessary levels of cash reserves, and leads to sound financial controls and policy guidelines
- Higher order resource development planning, donor cultivation, and grants management

Although financial management and financial accountability are stronger than they have ever been in the System, the centers do not yet place a more strategic framework around financial planning and management. Program and project managers often lack the skills and the systems to develop and manage budgets; the real cost of doing business is still opaque in many centers; grants are often too small and costly to manage. Boards are

looking at financial data that is incremental—a series of snap shots that fade from meeting to meeting, instead of seeing significant financial and other indicators in multi-year frameworks that enable more forward looking planning and decision making. Cash reserves are viewed narrowly, like savings accounts, with not much evident analysis of long-term capital needs or a nuanced sense of the impact of cyclical, restricted funding, or, on the part of boards, without appreciation for the “opportunity foregone” that is a side effect of accumulating reserves at the expense of investment.

In the CIMMYT EPMR, CIMMYT was tasked with the development of a strategic business plan; ILRI was urged to create a 10-year financial projection. ICRAF’s business plan was criticized for failing to use sufficiently rigorous assumptions in projecting potential adjustments in its resource requirements and allocations. The recommendations in this area, like parallel recommendations for strategic staffing and succession plans, are an effort to point the centers toward a more analytical approach to priority setting and contingency planning. These processes are not only about taking the long view, but also about preparing the center to be nimble in the face of opportunity and resilient in the face of disappointment or adversity.

Governance

Despite the positive pace of change within centers and the System reflected in the EPMRs, a number of new issues are beginning to emerge that deserve attention:

- Interlocking governance structures
- Increasing pressure to explore more radical reshaping of center governance

As centers build collaborations with other centers, engage in significant joint research activities and share a range of management and administrative support functions (ILRI/ICRAF, IWMI/WorldFish), a shared board position has become a common signifier of shared goals, mutual trust and accountability. Short of shared board positions, other centers are scheduling joint or overlapping meetings of their boards with common or linked agendas. These trends may be a harbinger of more fundamental changes to the structure of governance across the System.

The mechanics and implications of joint appointments have not been fully explored. While it is not unusual for individuals to serve on more than one board at a time, it is highly unusual for individuals to serve on multiple boards that are part of the same System, that have common donors or are competing for similar funds, and with strategy, priority setting and resource decisions that could easily place a board member in conflict.

The integrity of the board’s profile and its culture may also come under pressure. As boards get smaller, which they have been encouraged to do, the strategic value of each appointment increases. When board positions must accommodate *ex officio* appointments of various kinds as well as CG appointments, the balance of remaining

positions on the board requires careful planning to maintain diversity and expertise. Issues of commitment, performance and potential conflicts of interest may be difficult to manage when board membership interlocks, and they have not been fully anticipated and incorporated into the terms of reference for dual assignments.

None of these concerns presents insuperable obstacles to building strong and useful interlocking governance structures, but the practice requires clarity and thought in advance of problems emerging.

The increasing number of programmatic and management relationships that are “lateral” or “diagonal” across centers also puts pressure on the conventional governance structure. Presently, 15 independent centers each must support and manage boards of a dozen or so directors engaged in an ever growing list of almost identical oversight functions. The costs of governance and the difficulty boards face in adequately addressing financial oversight, strategy and priority setting, programmatic evaluation, leadership development and succession planning for their center obligations as well as for an increasing number of adjunct entities are likely to put pressure on the overall structure and nature of governance in the System. The various means by which the boards currently attempt to increase their financial literacy and streamline program evaluation point to a moment when potentially more radical changes need to be explored. Intermediate mechanisms like the Alliance may provide a way to mitigate or resolve the pressure for more coherence and efficiency, and at the same time, build greater clarity and accountability, but may also reach the limits to be gained through fine tuning rather than restructuring.

Section 6: General Lessons on the Role and Process of the EPMR

The review considered both changes to the evaluation process and a range of improvements to existing practice.

In interviews with donors, DGs, panel chairs and others, the reviewers solicited suggestions for improving the EPMR process, but also tested the perceived advantages of a fundamental shift from the current joint oversight and management by the Science Council and the CG Secretariat to a process managed instead either by an independent evaluation unit within the System or outsourced to specialist firms.

Despite regular criticisms of the direct and indirect costs of EPMRs, the suspicion of hidden agendas on the part of the Science Council and the Secretariat, and frustrations with periodic lapses in the judgment of panels, those interviewed strongly rejected outsourcing as liable to increase both transaction costs and the variability of results. Equally, there was little appetite for creating an independent evaluation group within the System.

DGs and others valued a process that emphasized independent peer review. Both DGs and boards were pleased to have positive feedback and affirmation when the panel felt it was merited, and were prepared to act on the majority of recommendations the evaluations contained. When the overall process seemed balanced and thorough, even recommendations that were not accepted or needed further reflection provoked a useful second look at the issues that were raised.

The frustrations expressed by the centers with duplicative reviews by donors seemed legitimate, but unlikely to be resolved. The real burden lies in separate reporting more than separate reviews. Although donors are invited at different points to participate in shaping, informing and reacting to EPMRs, they described their own reasons for undertaking reviews, and these were not likely to be wholly overcome by changes or improvements to the EPMR process or by increasing or heightening their involvement. This is not a reason not to improve the process, or to work to bring the reviews and their underlying value more systematically to the attention of donors.

A major internal issue that needs to be addressed is maintaining as much as possible the independent nature of the process. Hidden agendas and control issues were taken for granted. These concerns, legitimate or not, may never be completely allayed—some tension among the System's key players is inevitable, but a greater effort needs to be made to minimize the perception that the panel is unduly influenced by either the CG Secretariat or the Science Council or that reports and recommendations need to confirm foregone conclusions.

Once an EPMR panel submits its report, time is of the essence. The reports can be said to have a very short half-life in the System. The current chain of review in the System quickly becomes lopsided in terms of its impact and relevance shortly after the Science Council has concluded its review. The time lag between the Science Council and ExCo, followed by a longer lag until the AGM gives the latter stages of the System review the highly formal character of kabuki (but lacking discernible drama). The centers, their boards and panel chairs move on quickly once the review has been discussed by the Science Council. Donor support, if it is influenced at all by the EPMR, will be influenced shortly after the report is submitted.

What is lost in the current pattern is the ability of the subsequent players—ExCo and the AGM—to add value to individual EPMRs and to use their positions in the System to bring issues forward for more general consideration and study. (The present meta-evaluation is an example of a process that could enable greater synthesis and learning from a review cycle that yields annually approximately three center reviews along with a number of challenge and comparable system-wide programs.)

If ExCo is to play a visibly important and more substantive role in the system-level review of EPMRs, it must look at how it can align or coordinate its work with the Science Council (despite an organizational hierarchy that enables ExCo to claim precedence). And if the AGM, which is a significant convener of the System's donors and stakeholders, also wishes to add value to the review chain, there must be a different approach to bringing the EPMRs before the membership for consideration.

Most of the remedies suggested by the reviewers to improve or streamline the EPMR process are mechanical—opening up the process for shaping the special issues that panels are asked to address; clarifying the roles of the panel secretary, SC and CG Secretariat; providing guidance and assurance to the panel chair about her role in leading and managing the process; and exercising rigor and sensitivity about potential conflicts of interest among panel members with respect to the center.

There are wildly different estimates about the direct and indirect costs of EPMRs, which fuel grievances about the process and influence the centers' perception of value when the process is concluded and the report and its assessments are published. Although there is variability in the costs of the reviews (mostly due to travel and field visits, and some due to the centers' own management of the process), it should be possible to reach a realistic set of fact-based estimates that will minimize the unfavorable calculations of the EPMR process' return on investment.

With better CCERs, MTPs, financial reporting, and other evaluation tools in place, it has been suggested that EPMRs should become an audit of audits. This understates the value of the EPMR as a nuanced, reflective, integrative process that looks at centers whole—linking qualitative with quantitative measures, placing centers in context with their history, circumstances and opportunities, looking forward as well as back, assessing not just whether things are done right but whether the right things are being done.

The review team returned to the framework suggested in the ICARDA (1993) review in analyzing the tradeoffs between efficacy, efficiency, expedience in judging opportunities for streamlining and strengthening the process and reducing its substantial costs. Do the savings associated with radically smaller panels or professional teams of evaluators offset the loss of diversity, expertise and the opportunity to cultivate talent and engagement? Could field visits be more stringently budgeted? Terms of reference and special issues more narrowly defined to reduce the time demands for panels and center staff? In considering the ways in which the underlying elements of the review might be re-weighted (Annex 5 Table A5.1), the reviewers found that the most promising opportunities to save money or to streamline the overall process involve tradeoffs that might prove unacceptable to both the System and centers, and compromise or diminish the EPMR's value.

The list of suggestions and recommendations with respect to the strengthening and streamlining the EPMR process are consequently modest, but the reviewers believe useful (the table in Annex 5 summarizes the review team's suggestions and recommendations).

EPMR Process

Timing

- Maintain as close to a five year cycle as possible (The first year of a DG's tenure or a center in the middle of a full-scale strategic planning process should be the exceptions.)
- The center's interval in the adoption or implementation of a strategic plan—overdue or newly adopted—is not a critical consideration in timing the EPMR, and may be a welcome input to those centers that need to begin a thorough strategic planning exercise.
- EPMRs that preceded a leadership transition provided significant input to the board's search process about the center's strengths and weaknesses, and the perception of it among stakeholders, partners and beneficiaries. EPMRs were also critical inputs to a new DG's orientation and first year goals.

Terms of reference and special issues

- The development of standard terms of reference has increased the comparability and quality of the EPMRs, as had the development of a core set of documents that all panels use to familiarize themselves with the centers and with System processes and priorities
- Every effort should be made to bring scheduled EPMRs to the attention of donors and others who will or should rely on the EPMR in their decision making and to solicit their input on the special issues the reviews are asked to address. Similarly, input should be sought from the center management and board in a

timeframe that allows for more agreement on these issues. Allowing more time and investing more energy in this phase of framing the review might broaden acceptance among donors, minimize the questions among centers about SC and CG agendas.

- The special issues should include a request for an assessment of potential or emerging system-wide issues, if appropriate. Some EPMRs have produced as appendices to the main report useful assessments of system-wide issues by building from center-specific findings.

Panel chair/panel members

- Consistent with a planned cycle of three EPMRs a year, identify two cycles of panel chairs simultaneously (and at least a year in advance for the first three). The panel chair is highly strategic decision, not only influencing the quality of the review through acknowledged expertise and professional standing, but through the management of the process. The time commitment required to chair an EPMR and the level of leadership and skill being sought argue for getting on schedules as early as possible.
- Prepare and orient panel chairs more thoroughly. Relying too heavily on past experience—either on panels or as part of comparable evaluation process—and providing an informal orientation short-changes the panel chairs and the process.
- Estimate the time commitment for chairs more accurately (from interviews with panel chairs, actual time required exceeded the estimate by 50%)
- Maintain the current practice of conducting the finance reviews through the use of a consultant coordinating through the management/governance panel member
- Create more uniform frameworks for the governance, management and finance portion of the reviews, provide a stronger orientation to the process to the standing roster of panel members in these areas, and identify these panel members as soon as EPMRs are scheduled

Intersection of EPMR Process with Center

- Maintain transparency, interaction, open communication and feedback to management through the course of the EPMR. The identification of special issues in the instructions to the panel should remain responsive to the issues that center management and boards wish to see explored.
- Advise panel chairs on the value and appropriate scale of communications to the center's leadership and staff, including regular contact with the DG, summarizing the principal findings verbally to staff, communicating panel drafts for factual correction (and to assure “no surprises”). Regular and appropriate communication contributes to the EPMRs credibility and value to centers and speed the implementation of recommendations.
- Benchmark the core (or standard) direct costs of the EPMR process to centers to eliminate the widely varying estimates of total expenses that add to the undertow of resentment within centers at the burden of system-mandated and donor required evaluations.

Quality

- Motivate the centers and their boards to improve CCERs
- Facilitate use of CCERs, new MTPs, the CG performance indicators as significant inputs in the process
- Negotiate with centers the inputs to the review process—background documents, CCERS, field visits
- Make strategic use of field visits—what is the purpose, what will be learned, what are the substantive consequences of not conducting field visits (can these be evaluated/suggested prior to the panel's first meeting)
- Improve the posting of resource materials—prioritize documents/reports, encourage the center's to provide annotations and summaries (IRRI's new DG has already created an area for eventual EPMR documents—CCERs are being posted, other studies, reports will be added and updated to streamline the preparation of materials)

Results

- Standardize the process for sharing drafts with center management and boards to build transparency and legitimacy for recommendations.
- Encourage panel chairs to present highlights from the overall assessment to center staff at the close of the review.
- Accelerate the process for review (currently 5-6 months between SC and ExCo). Experiment with bringing the SC and ExCo reviews closer together either temporally or through mechanisms like joint subcommittees or taskforces assigned individual EPMRs. The power of the review and the System's formal responses to it decay very quickly, marginalizing ExCo's commentary and the influence of key stakeholders.
- Use the AGM to engage in more forward looking or change oriented discussion of the EPMRs. The AGM engages an important audience for the reviews but the details of the individual reviews have diminished in import by the time they come to AGM
- Continue to push boards to monitor EPMR recommendations and maintain status reports in MTPs

Overall Quality Content, and Comparability of the EPMRs

The review team was asked to look at the quality and comparability of the reports themselves. Some of the underlying observations appear in greater detail elsewhere in the report and are included here in an effort to consolidate our answer to this element of the TOR.

Contributors to the Quality of the EPMR Process

- A consistent understanding of the EPMR process**

Even allowing for the diversity of the centers in terms of mission, scale and complexity, some EPMR panels clearly understood the process and its purpose more clearly than others. The safety nets for each EPMR are the terms of reference, the knowledge and skill of the panel chair, and the presence of the panel secretary—who may be the only person with a basis of comparison, contextual knowledge and an understanding of content and utility of the variety of reports and resource materials that surround the process.

Some of the EPMRs reflected a readiness to re-organize and restructure programs in a manner that seemed both over-reaching and unhelpful. When these appeared as recommendations, the centers were placed in the positioning of responding, sometimes with evident reluctance. When this happened, it made the presentation of the report, the discussion of the recommendations, and the center's responses appear argumentative rather than a thoughtful disagreement. It is hard to know if there is a way to minimize recommendations that fall into this category without compromising the independence of the panel's evaluation and report.

- Availability of CCERs, quality of MTPs, other analysis and data**

As noted elsewhere in the reports, a few of the EPMRs stand out for the way in which CCERs facilitated the process of the review, but the more persistent message was that CCERs were not conducted for a sufficient number of programs or areas; they were not well framed; or they were not well conducted. Although boards are expected to play a role in the planning and review of CCERs, the governance portion of the EPMRs frequently cited a lack of adequate board involvement and oversight.

A panel that convenes for three weeks or so and conducts brief site visits will struggle to produce a probing evaluation in that timeframe without good building blocks.

The amount material provided has been carefully edited to provide a basic but comprehensive set of background information about the CG System. The centers are also asked to produce a basic and consistent set of center-specific information, which is supplemented by the centers as they feel it to be useful. The result can be daunting and a modest amount of annotation (a burden on a center's staff) might facilitate better preparation.

Centers routinely create web pages for their EPMRs, a powerful boon to the process and assign a member of the staff or retain an outside consultant to act as the coordinator and facilitator of the EPMR process. The more experienced and senior the EPMR coordinator is, the more smoothly the process runs.

- The productivity of panel members**

In general, panel members underestimate the time required by EPMRs (although the estimates are provided in the appointment letter) and rely too heavily on the last two weeks to complete their analyses and produce draft material. Panel chairs can be gently insistent about the need to prepare and circulate first drafts prior to the final panel meeting, but have very mixed luck. The two-week drafting period provides a panel with a critical amount of continuous time together that cannot easily be abridged or shifted to a more virtual mode without affecting the quality of the EPMRs. Panel members are professionals, they have expertise, they are interested in the assignment; when they gather as a team, these qualities come to the fore and an intense and highly productive period of formulating and testing the assessments being made.

When panel members fail to read materials produced for the EPMR, it is extremely frustrating to the DGs and staff who prepare, present, and provide background data and supporting documentation, and then find themselves re-providing it repeatedly as the process proceeds. Although great forbearance is shown, it does not enhance the overall confidence of the center's management in aspects of the evaluation or the merits of some of the recommendations.

Again, the work of the panel chair and the continuous input of the full panel as the report develops help to even out inconsistencies and improve the overall content of the report. Any additional time spent by the CG Secretariat or the Science Council in emphasizing the need for good preparation with panel members will be time well spent.

Consistency and Comparability of EPMRs

The review revealed that the reports when grouped with certain questions in mind provide a strong set of insights into trends, common issues and issues arising.

Certain reports represent a pivot point—either identifying an approach or set of issues that the Science Council, the Secretariat and others find significant or useful and then begin to incorporate or encourage in subsequent reports, or drawing attention to a set of problems that sharpen or deepen subsequent EPMRs. Governance and finance are more thoroughly and effectively reviewed in 2006 than in 2003—reflecting a combination of more clearly defined as well as rising standards of practice, and lessons learned from problems analyzed in notable EPMRs.

Section 7: Conclusions

About the EPMR Process

1. The EPMR is essential to the System.

The meta-evaluation confirms the essential roles that the EPMR process plays in the CGIAR: evaluative, transformative, supportive and even prospective. The EPMR is an essential anchor of an emerging integrated system of evaluation comprised of MTPs, the PMS, CCERs, EPMRs and periodic evaluation of the CGIAR itself. While its principal role is evaluative, an EPMR may help transform a center at a critical juncture, provide useful advice for improvement and make conceptual contributions to the way research should be planned, organized and carried out in the System.

2. There are cross-cutting system-level issues that are visible by their absence in the reviews.

The System has evolved in an organic fashion. The Science Council is charged with rational planning for the System. The rational side of planning for an organic system is complemented by consultative and decision-making processes that are evolving with the System.

The EPMRs have indicated that many issues lie outside their TOR and solutions are beyond the capacity or competence of a single center. They can, however, be asked to suggest actions that could/need to be taken by 1) centers bilaterally, 2) the Alliance, 3) the two Secretariats, 4) the Executive Council and the 5) members of the Group and donors. These bodies represent successive levels of action respecting a principle of subsidiarity.

The review team has identified from the 11 EPMRs several issues that are candidates for such action:

1. The need for the System to position itself on the research-development continuum while recognizing the position of individual centers will be quite different as a function of the nature of their IPG outputs, partnerships needed to produce and ensure uptake of those IPGs, and organizational options for interaction.
2. The need to ensure adequate production of key “System public goods” which will be produced at sub-optimal levels if funding depends on donors and users who free ride and centers whose boards may question the return to the center itself in taking on the responsibility. The meta-evaluation highlights the production and maintenance of databases as a case in point.
3. The System is replete with mechanisms that have grown up organically (from Communities of Practice to system-wide Programs and Units of the System Office) to fill coordination gaps in the System. The meta-evaluation suggests that the Science Council review the role that these mechanisms play in an innovation

perspective and make recommendations on how to pick the winners and support them.

The Science Council has been active in anticipating issues. Several scoping studies and meta-reviews have been carried out and there are now think pieces becoming available on the website. Using EPMRs as the unit of analysis, the review team has seen examples where the panel has identified some of these a) by declaring them beyond their terms of reference and b) by contributing special annexes given the panel's belief in their importance.

3. EPMRs make important contributions to evaluation frameworks and approaches

Many EPMRs make an important contribution to way scientific research, governance and management should take place. In some cases, the review has made a seminal contribution to thinking or elaborated thinking that was going on in the Science Council and its committees but not yet in the public domain. Among these issues are: 1) management and governance, 2) impact of NRM research, 3) organizing the production of IPGs in decentralized centers, and 4) improving the EPMR process itself. Such discussion raises the bar for future reviews and these contributions should find their way in to guidelines and good practices to be followed by successive panels. The most recent views begin to deal with the way to achieve CGIAR goals through production of international public goods in partnership with others in a System which is increasingly decentralized.

4. There are continuing trade-offs to be made between efficiency, efficacy and expediency in the carrying out of reviews.

The review team identified a number of good practices introduced in reviews that later become standard practices in later reviews. However, in the final analysis each review is *sui generis*: the quality of the review will lie in tailoring the review to the center. Preparation of the issues, selection of the chair and panel members and the quality of CCERs play an important role. The trade-offs among the 3 E's will affect trade-offs among other values: 1) autonomous versus System mechanism, 2) knowledge of the System versus fresh blood and diversity, 3) interactive versus more arms' length approach.

About Ensuring Research Quality and Relevance

5. Alignment to System Priorities

The System Priorities provide the current compass settings for the System. The overlap between System Priorities and MDGs or Goals of Regional Organizations defines a subset of mutually agreed goals and areas of potential collaboration but the latter do not trump the System Priorities. How the centers organize themselves, the nature of their

products and services, their partnership practices and ultimate position on the research for development continuum are simultaneously determined. Relevance is not a single-attribute quality.

6. Measurement of Scientific Quality

Measurement of scientific quality is still difficult. A mixture of input proxies (quality of staff, quality of facilities, resources) and output indicators (e.g., publications in refereed journals with high impact factors) are presented usually with reference to an appropriate comparator center. The Performance Measurement System is monitoring its own experience with indicators that govern 50% of the World Bank contribution and improvements are being made. Approaches to impact analysis are also improving helped by the incentives created by the WB funding mechanism.

The importance of maintaining scientific quality is clear if the centers are to be credible partners (both upstream and downstream). Quality will increasingly depend on the way centers create virtual critical mass through networks and partnerships and their ability to benefit from comparative and “complementary” advantage. Incentives at the center and Scientist levels that reward collaborative behavior among centers and with partners need to be addressed by the Alliance

7. Research planning, priority setting and resource allocation

Review of strategic planning and priority setting figures in the standard terms of reference of reviews and gets a standard recommendation: more focus, more transparency, more formalization, or more consultation (whatever is the opposite of what they are currently doing well). Paradoxically, several of the centers led by economists and pioneers in quantitative priority setting in the past have moved away from the use of such models.

It is sometimes recommended that a center engage in “business planning” linking resource mobilization plans to priorities points. The absence of guidelines for business planning is a gap. This gap will become increasingly apparent as more resources flow through Challenge Programs, partner networks and projects. The reviews also highlight a role for boards of trustees in setting fund raising objectives and overseeing decisions to engage in major projects with shared responsibility with others.

8. Research evaluation and impact assessment

This meta-evaluation is part of the effort to develop the emerging system of integrated evaluation with smooth links among MTPs-PMS-CCERs and EPMRs.

Key Programmatic Challenges

9. The role of socio-economists in the Centers

The definition of “socio-economist” is somewhat imprecise but everyone agrees that it is more than agricultural economists. They perform a variety of roles in centers: internal planning processes and evaluation, producers of public good knowledge as separate programs, maintenance of critical databases, cross-cutting support to technical programs, or complete integration in multidisciplinary program teams. Their location in a center involves a discussion where “there is no right answer” only the best fit. The best fit is a judgment based on: 1) the client targeted, 2) degree of integration with biophysical scientists, 3) the need to address up-scaling issues, 4) the intersection with institutions and legal environments, and 5) the need for tools of analysis and information. The maintenance of databases and information is mentioned as an example of the difficulty of maintaining public goods.

10. Policy-oriented research is different from economic research

Policies and macroeconomic environments have been cited as the key constraints to uptake of many System public goods (whether technologies or institutional arrangements). Policy research for advocacy purposes is frowned upon because it compromises the comparative advantage a center has through its reputation for independence and objectivity. Attempts to develop a methodology for analyzing the impact of policy research have increased our rigor of thinking but not yet advanced measurement.

Because of the breadth of policy research, panels have suggested various boundaries or, at least, put forward some principles: 1) open-ended policy research becomes diffused; there is need to focus; 2) the boundary between policy which is normative and laws which deal with rules needs to be managed; and 3) analysis of policy options can be objective advice on what can be implemented is political. Evidence-based policy work can give a center convening power where international strategies may be influenced. Maintaining the evidence base for such consultations can make the center a “partner of choice.”

11. Managing Complexity: IPGs, Partnerships and the Research for Development Continuum

The photographer Ansel Adams said “There is nothing worse than a clear image of a fuzzy concept.” This may explain as well the art of producing international public goods in partnerships upstream to access cutting edge science and downstream to ensure uptake in complex areas such as integrated natural resources management. The place of a center on the research for development continuum is simultaneously determined along with the need for capacity building by funding that is increasingly restricted and provided by donors with a development mission. As a key donor expressed it, the CGIAR cannot determine its place on the continuum alone.

The complexity of dealing with these issues is complicated by the fact that there are few pure public goods and the notion of upstream and downstream is often interpreted to

mean either ARIs versus NARS or “strategic and applied” versus “adaptive research and extension.”

The review team concluded that an integrating framework such as the “agricultural innovation system” is necessary to explain the equilibrium position of a center and the points of intervention at the center and higher levels needed to change this position. The devil is in the detail and several recent reviews use some concept of a knowledge system or innovation perspective as useful for organizing the center’s own work and not just an area of research applied to the uptake of technologies by NARS. This again an area where there is no right answer but a good framework may help a center find the “best fit.” The review team also concluded that lessons for organizing the production of IPGs in a decentralized and partnership mode would learn much by going outside the System to NGOs, other sectors such as health, and the private sector.

12. Governance and management are evolving rapidly

The review team noted the rapid evolution of thinking about boards and their responsibilities, financial management and organization culture that has taken place in the short time covered by the meta-evaluation. This has been an iterative process of change, with individual EPMRs, the CG, and the external environment all contributing to and advancing higher standards of practice and accountability. Although no center wishes to find itself the recipient of a critical evaluation of its management or governance practices, the centers themselves are highly responsive to improvement and centers take note of other centers’ evaluations and address comparable issues independently.

13. Improving the EPMR process and enhancing impact

The review team noted early in its report the trade-offs among efficiency, efficacy and expediency that need to be made in designing a review. It concluded that preparation is key. It believes that a framework of analysis such as the AIS will help identify the special issues to be examined. Each review has to tailor a process to the circumstance of the center with implications for TORs, leadership, the size and composition of panel, access to consultants and scheduling of the missions. The growing role of CCERs in the emerging evaluation system is treated in an Annex.

The review team found that attention to process is important. Transparency, interaction, open communication, feedback to management in the course of the review, and reporting verbally to staff and management so that there would be “no surprises” in the final report were once considered optional practices; the culture has evolved so that these are not just good practices but increasingly standard practices. The capacity of a review to commend as well as recommend is not dysfunctional politeness.

The value added through the EPMR process was declared in the review team’s first finding. It is our introduction and our conclusion.

Annex 1: Reflections on the Review Process: ICARDA 1993

In 1993, the ICARDA review included a special chapter on the review process¹⁹ in which they reflected on the “efficiency, efficacy and expediency tradeoffs.” In that particular review they experimented with some innovative tools and processes that have since been used in reviews.

They raised the following questions with respect to:

- Efficiency: Efficiency-oriented changes in the review process are mostly economizing; have they have reduced efficacy?
- Efficacy: Small panels can reach consensus more quickly. What is the cost of reviewing the reviews that this implies?
- Expediency. Under extreme budget pressure, a number of options are possible that involve trade-offs with other important considerations:
 1. Select panel members with more emphasis on continuity rather than novelty
 2. Experiment with extremely small panels rather than smaller panels (in the extreme a single individual with consultants).
 3. Eschew field visits (and use information from the center and NARS)
 4. Rely more on information from donors with programs in the area and M&E systems
 5. Use more resources from and more directly involve input from the two secretariats.

Their findings on the trade-offs across the three “E” factors highlighted the importance of more time and detailed lower level interaction in NARS, deeper examination of program issues with staff and more disciplinary expertise

They also concluded that the (then) 18 centers were so different that there would be 18 different optimal points and, should this be the case, there will be a rather greater requirement for fine-tuned planning for any particular review. Reviews were then asked demanding questions about the way the center strategy affects regional needs. Placing a center on the research to development continuum suggests a prior knowledge of NARS capabilities which a center review panel may not have time to explore adequately.

The review experimented with new instruments used in advance of the review: 1) a survey of NARS administrators, 2) a survey of staff, and 3) comparative data analysis across centers.

Finally, they tried to make the review “transparent and iterative.” The results of the survey of staff were shared early in the mission. Draft sections of the report were shared with management including country-specific field notes. The chair concluded that “convergence” was worthwhile. In the second visit there was limited interaction with staff (most of their views were known) and even then the time was limited for full discussion and consensus with the team.

¹⁹ Jock Anderson (Chair) ICARDA EPMR 1993. Ch 5: “The Review Process”

Annex 2: Existing Mechanisms to Deal with System-Level Issues

In order to allow the System function more effectively a multiplicity of mechanisms has evolved at all levels: scientist to scientist, center to center, Alliance-wide and system-wide. In some cases there is an evolution of a mechanism from an individual collaboration to a community of practice and from there to a system-wide initiative that ends up being institutionalized as a program or System Office. The issue is how to use these most effectively as part of a larger system. Table 2.1 lists some of them.

2.1 Mechanisms at Center, Alliance and System Level to Deal with System-wide Issues

Issue	Mechanism	Level
Resource Mobilization	Marketing Group	System Office
	Center-Donor Relations, Resource Mobilization	Center
Core versus Restricted Funding	Incentives for Scientists, Delegation Framework Programs	Scientist, Program System, (Alliance)
	Challenge Programs	System, (Alliance)
	Regional Plans	Alliance
	MTPs	Centers, System
	Internal Planning and Project Approval	Centers
Accountability	CG System Review, Meta-Evaluations	System CG-SC
	EPMR-PMS-MTP	System-SC-Center
	Donor Reviews	Center, Program
	CCERs	Center, Program or Unit
Specific Programs	Stripe and Scoping Studies	System, Center, Theme
	Inter-Center Workshops	Center, Science Council
Conflict Resolution	Conflict resolution mechanism of Alliance	Alliance Executive/Board
	Bilateral discussions	Center-Donors
Monitor Financial Health	EPMR, CCERs, PMS	System, Center
	CCERs, BOT Finance and Audit Committee	Center, BOT
	Joint Corporate Structures	DGs, Steering Committee
Internal Management	Shared Internal Auditors	System Office, Alliance
	BOT Executive Committee, CCER, MTP Guidelines	Center
System-level Planning Information	PMS linked to MTP outputs (limited indicators)	System (SC/CGSec)
	Regional Plans	Alliance

Annex 3: Analysis of Recommendations in 11 EPMRs

Approach

It was worth investing in an approach that presented information in a way that could be replicated by others who wanted to see basis for our conclusions. A template was developed for categorizing the recommendations made in the 11 EPMRs under consideration. It includes both the specific questions asked of the panels and the general areas concerned by the review.

Template: Key to Categorizing Recommendations

1. Planning

- 1.1. Strategic planning (general)
 - 1.1.1. Nature of science: place on R to D continuum; seed systems
 - 1.1.2. Nature of science: descriptive vs. analytical; strategic vs. applied
 - 1.1.3. Nature of science: biological vs. socio-economic and policy
 - 1.1.4. Geographic choices; regional and global mandates
 - 1.1.5. International public goods: definitions, judgments
- 1.2. Priority setting (approaches, criteria)
 - 1.2.1. Add, enhance or merge themes: innovation, agro- biodiversity, high value commodities
 - 1.2.2. Drop theme or reconsider importance
 - 1.2.3. Add a function (publication, communication,
 - 1.2.4. Program balance
 - 1.2.5. Methodology or Perspectives to include: poverty, gender, income growth
 - 1.2.6. Business Planning
- 1.3. Program Issues
 - 1.3.1. Quality
 - 1.3.2. Relevance (to new challenges)
 - 1.3.3. Impact (pathways, measurement)
- 1.4. Socio-economics and policy
 - 1.4.1. Balance/Integration with “core biophysical research” in commodity/factor based centers; modeling
 - 1.4.2. Issues of “influence” versus “ impact”
 - 1.4.3. Structure as cross-cutting or stand alone program
 - 1.4.4. Role of center in international fora
 - 1.4.5. Institutions
 - 1.4.6. Databases: create and maintain as IPG
 - 1.4.7. Intellectual Property, Biosafety, Transgenic Crops

2. Monitoring and Evaluation, Impact Assessment

- 2.1. Evaluation concepts and tools
 - 2.1.1. Evaluation (General)

- 2.1.2. M&E, Performance assessment
- 2.1.3. Impact orientation, impact pathways
- 2.1.4. Evaluation of Risk
- 2.2. Processes
 - 2.2.1. CCERs: quality, independence, relation to board, other issues
 - 2.2.2. Evaluation tools, data, and applications (GIS, surplus models, data)
 - 2.2.3. Responsibility for impact studies
- 3. Capacity building
 - 3.1.1. Defining capacity building and what is eligible
 - 3.1.2. What? For whom?
- 4. Organization of Research for Impact
 - 4.1. CGIAR level issues
 - 4.1.1. Restructuring of CGIAR in general and implications for center
 - 4.1.2. Economies of scale, size, and scope : How to achieve
 - 4.1.3. Issues of overlap, competition
 - 4.1.4. Relation to partner needs
 - 4.2. Inter-center collaboration: opportunities
 - 4.2.1. Alliance and regional plans
 - 4.2.2. Hosting and mechanisms to promote inter-center collaboration
 - 4.2.3. Incentives
 - 4.2.4. Principal-agent issues (how system is represented in global fora)
 - 4.2.5. Bilateral collaboration with other centers
 - 4.3. Partnerships: strategy, general
 - 4.3.1. cross sectoral partnerships (agriculture, health, natural resources)
 - 4.3.2. With NARES (by region)
 - 4.3.3. Relation to ARIs
 - 4.3.4. Issues in partnership: subsidiarity, crowding out
 - 4.3.5. Relations with host country
 - 4.3.6. Private Sector: PPP (public private partnership); strategy
 - 4.4. Center internal structure and organization
 - 4.4.1. Recommendations for improved delivery
 - 4.4.2. Comments on matrix organization (by center)
 - 4.4.3. Decentralization, out-posting to regions.
 - 4.4.4. Human Resources: strategy, recommendations
 - 4.4.5. Financial Resources: strategy, recommendations
 - 4.4.6. ICT: strategy, recommendations
- 5.0 Governance and Management
 - 5.1 Board (General; board effectiveness; procedures
 - 5.2 Management, training
 - 5.3 Financial management, audit
 - 5.4 Management in General, human resources, MIS

Annex 4 Center-Commissioned External Reviews (CCERs)

Introduction

Center Commissioned External Reviews were introduced as a tool of the centers originally for quality assurance of scientific programs and action by management. They were commissioned by the boards of trustees which were given important roles in approving the terms of reference, receiving their recommendations and overseeing implementation of board-approved responses. From the point of view of evaluation within the System, there was a hope in some places that they would lessen the total burden of evaluation (but more specifically the cost of EPMRs which could build on their findings and become an “audit of audits”).

The review team recognizes their importance in the emerging integrated evaluation system (MTPs-PMS-CCER-EPMR) and their special use by EPMRs as building blocks around which they can structure the review. However, the reviewers found many statements that insist that the EPMR must be much more than an “audit of audits.” An EPMR must take a holistic, integrative and strategic view of the center. As one panel noted, while the EPMR “samples the detail of the science, it cannot possibly provide the Centre with the service that the CCERs do.” This panel has used the CCERs and their recommendations heavily and has found them quite complementary to its own deliberations, which have generally been above the level of individual Projects” (IPGRI).

Experiences with CCERs as described in the EPMRs

Role of Boards

As tools of the centers, CCERs may perform many functions. In response to a review which was critical of its quality assurance processes, CIMMYT declared that CCERs would “make better use of CCERs as the primary mechanism for science review.” This may have overstated the case since they were also strengthening internal mechanisms, introducing a DDG-R, and involving the board’ program committee in the same vein. However, the role of the board in commissioning the CCERs reinforced the fact that the board was assuming its responsibilities of program oversight. The EMR of ICRISAT had described a situation in which the “board members report little understanding of the CCER process” and recommended that a set of guidelines be prepared. One board despaired that CCERs were a way of “getting information out of management.”

Guidelines would include:

...how CCER topics are determined, how members are selected and approved, how terms of reference are decided, the role of board members and the process for reporting back to the board. [Such guidelines would be] developed, adopted by the board and included in a Board Policies and Procedures Manual.

ILRI and its board were commended for serious discussion and use of its CCERs but even then the board was advised to take a stronger role in their design.

The panel looked at the CCER reports and the responses by ILRI and concluded that the recommendations are taken seriously. The Program Committee of the board has a responsibility to provide input into the form and panel membership of CCERs as well as receive and comment on the CCER reports and the staff response to them. On reviewing how CCERs are both planned and commissioned, the panel considers that the board, although active in discussing the reports from CCERs may be more passive than is desirable at both the beginning and in follow-up to the process. The panel commends ILRI for its effective use of CCERs and concludes that they have assisted ILRI management in making important strategic decisions.

CCERs and other External Reviews

While CCERs are a primary source of external evaluation at the program level, they are not the only evaluation. EPMR panels have treated the information generated on a center by system-wide reviews (e.g., Systemwide Review of Plant Breeding Methodology) as the equivalent of a CCER and the CIMMYT review has called donor program evaluations “one of the most effective, but least appreciated mechanisms in the CGIAR, for maintaining the quality and focus of science in the centers. Donors often review projects supported by restricted funds on a regular bases and since an increasing proportion of the centers’ activities are funded in this way, it means they are routinely subject to external review.” It would appear that coordination of external evaluation of centers would take place more at the CCER level than at the EPMR level. Such coordination or even joint review was provided for under the Paris Declaration and would reduce the burden on centers of successive donor evaluations of projects. (The Desert Margins Program was said to have had four evaluations in one year.)

EPMRs have also used consultants’ reports in specialized areas and reports by BOT subcommittees as useful sources generating detailed information and evaluation that the panel can then evaluate.

It was not possible to put financial costs of CCERs on a comparable basis although the Alliance has some orders of magnitude for expenditure on CCERs that still need to be refined. However, the review team has extracted some information from the EPMR documents that provide some indication of resource commitments made on external evaluation.

Table A4.1: CCERs and Similar Evaluations by Center*

Center	Number of CCERs	BOT Reports or Consultant	Systemwide Reviews	Donor Evaluations	Observations
CIFOR	3				EPMR Recommended more CCERS
ICRISAT	4	1	2		Management CCER influential, Disagreed with NRM CCER
ICARDA	6				Recommended management CCER
IPGRI	13				Covered all areas, Regional CCERs useful
CIMMYT	2	2	1	4	Value of donor evaluations
ILRI	10			3-4 / year	Good coverage, Acted upon seriously by BOT

* The numbers in the table record only those evaluations that were mentioned in the context of CCERs and considered to be substitute reports in a given area.

However rough, the figures give some order of magnitude since a CCER will usually have a minimum of three people and many have four to ensure a breadth of disciplines. In the case of ICRISAT's CCER on finance and administration had 4 members and the mission lasted a full month with field visits to 3 African sites. It also engaged its own short term consultant. Such a review is approaching the cost of a small EPMR. The leader of the CCER was later brought as a consultant to the EMR.

The quality of CCERs

CCERs are supposed to bring the in-depth scientific knowledge and provide the detailed information an EPMR does not have time to do. It is the variation in quality among the CCERs that has been the concern of the Science Council with estimates of 60-70% of them being considered "very good." EPMR panels have used terms that range from "useful but lacking depth" to "insightful" and "authoritative."

EPMR comments on the quality of CCERs usually explain high quality first in terms of the excellence of the leader and, second, the clarity of the terms of reference. Processes that involve the leader of a CCER in determining the TOR are cited as good practices. Leaders of successful CCERs are sometimes brought in as short term consultants to the eventual EPMR and asked to update their analysis. This link between CCERs and EPMRs needs to be remembered for future use.

The use of CCERs by the Centers

Centers generally act quickly on the recommendations of their CCERs where the BOT and management are in agreement with the recommendation. EPMR panels give their

judgment on the adequacy of a center's response. The failure of ICRISAT to implement the recommendations on the CCER on NRM was attributed to a disagreement between board and management but action was finally forced by an impending financial crisis. The EPR panel went beyond the recommendation of the CCER. In another case, ICARDA disagreed with many detailed recommendations of an excellent genetic resources CCER but the EPMR found that the center had a "strong rationale" for doing so. However, CIMMYT's response to a CCER's concerns of erosion of its staff was described as "non-specific, non-committal and unconvincing." The panel urged the center to "address the issue in a realistic manner or risk losing significant donor support."

Since the CCER is a board and management tool, a center does not wait on the advice of an EPMR panel before implementing the recommendations it finds useful. Some examples of major changes resulting from CCERs include ICRISAT's flattening of its structure, its paradigm shift on training and its commitment to build its socio-economics capacity in all regions (EPR). Other examples include ILRI's reduction of its work on trypanosomiasis and ICARDA's commitment to develop impact assessment methods that were consistent across spatial scales and able to assimilate different styles of evaluation.

A few hypothetical questions are: "Should centers wait for an EPMR before implementing recommendations of a CCER? What if a center implements some recommendations that a later EPMR disagrees with and fails to implement some recommendations that the EPMR agrees with?

The review team feels that this is indeed a hypothetical case. First, a center and its board should not wait to take action. CCERs are a management tool commissioned by the board of Trustees not for later evaluation but for due diligence and action. Second, recommendations are for consideration of the board and management and do not rise to the level of instruction. Third, since the schedule of CCERs over the period between reviews is known, controversial issues will have been signaled in advance, results of CCERs will be commented upon by the Science Council in the review of MTPs and actions taken will be reported as improvements in the Performance Measurement System. If a course of action is in doubt as the EPMR approaches, the Science Council or even the center can request that the EPMR investigate this issue in detail. As appropriate, this could be an occasion where the leader of the CCER might be invited to update the CCER as a consultancy to the EPMR. Finally, EPMR panels have been quite perceptive in agreeing with centers' reasons when they have not implemented certain CCER recommendations or in criticizing a center for failure to act on what they believe are good recommendations. Where an EPMR disagrees strongly with the CCER and the center, their recommendation is usually cast in strategic terms.

Lessons for EPMRs from the EPMR comments on CCERs

The review team spent perhaps too much time in coming to understand the role of CCERs. In retrospect, the study of CCERs as they are discussed in the EPMRs gives some guidelines for the process of carrying out EPMRs. Good practices in planning and organizing CCERs have equal applicability to the planning and organization of EPMRs.

Table A4.2 draws on Bioversity's guidelines for CCERs but includes elements that have come from other centers as well.

Table A4.2 Good Practices in Conducting CCERs		
Practice	Practice	Observation
Commissioned by board of Trustees	Commissioned by and reports to BOT	
Objectives	<ol style="list-style-type: none"> 1. Identify issues related to direction and strategy of the program 2. Assist BOT in oversight of the program 3. Provide inputs to EPMR 	The order of the objectives highlights the CCER's role as a management tool
Scope	<ol style="list-style-type: none"> 1. Take a retrospective and forward look at program within Institute's strategy 	The exact nature of the CCERs carried out will affect how an EPMR panel is constituted
Define activities	<ol style="list-style-type: none"> 1. Assess impacts within major activity areas 2. Documenting activities, outputs, and outcomes 3. Surveying stakeholder perspectives 4. Conducting self-assessment SWOT 5. Conducting external review of program quality and relevance 	(Taken from a Bioversity CCER)
Criteria for Selection of panel chair	<ol style="list-style-type: none"> 1. Expertise in organizing and managing teams and large evaluations; 	Similar to recommendation for EPMR panel chair. Leadership ability is a primary requirement. In large teams it may be more important that his or her technical specialization
Panel Members	<ol style="list-style-type: none"> 1. Technical expertise 2. International experience 3. Ability to act effectively as a member of a team 4. Gender balance 5. Balance among developed and developing country members 	Since the first three qualities can be found in both sexes and in developed and developing country experts, the latter two criteria come up when choosing a balanced team.
Consultants	<ol style="list-style-type: none"> 1. Expertise in special area 	Time bound and narrow participation
Process	<ol style="list-style-type: none"> 1. Orientation to center, program under study, CCER process, and expectations 2. Panel develop plan for review 	Re: # 5 BOT observer to provide clarification regarding the Institute; clarification of program is referred to the

Table A4.2 Good Practices in Conducting CCERs		
Practice	Practice	Observation
	<ul style="list-style-type: none"> 3. TOR emphasize qualitative and quantitative evidence to draw conclusions in designated areas 4. Review documentation 5. BOT observer accompanies panel on visits and interviews 6. Institute staff member may accompany panel on field visits 7. Conclusions of panel will represent the view of the panel as a group. 8. High quality written report that documents conclusions; report preparation provided support services by Institute 9. Emerging conclusions discussed with center management and program management before completing the final report. 10. Panel chair will make oral report to BOT. 	<p>relevant program head Re: #6 Staff member will not participate in interviews with partners or panel discussions Re: # 7 The conclusions of the panel will be drawn from all available evidence, ensuring that careful standards of evidence are adhered to.</p>
Activities	<ul style="list-style-type: none"> 1. Assess program impacts 2. Document activities, outputs and outcomes. 3. Survey stakeholder perspectives 4. Program self assessment 5. External review of program quality and relevance 6. BOT review and decision 	<p>Responsibilities for these areas are assigned so that review ensures coverage of 1) impact, 2) accomplishments, 3) quality and relevance of research, partnerships, priorities, 4) future directions, 5) quality, direction and management, 6) future direction.</p>

The lessons from CCERs will have equal or greater relevance for the organization of Challenge Programs and SWEPS.

Annex 5: Improving and Streamlining the EPMR Process

Table A5.1 Improving and Streamlining the EPMR Process	
ISSUE	Recommendation for Improving and Streamlining
Terms of Reference	<p>Development:</p> <p>Respond to center-suggested issues systematically</p> <p>Provide Feedback to donors on the final TOR when they have made suggestions.</p> <p>TOR are a “safety net” for quality and coverage of the review</p> <p>Special issues of the SC and CG Sec should not give rise to suggestion that there is a hidden agenda</p>
Panel Composition	<p>Panel Chair:</p> <p>Identify early</p> <p>Experience in leading review teams</p> <p>Experience in the CG</p> <p>Participate in selection of other team members</p> <p>Adequate time to prepare and follow up</p> <p>No conflicts of interest (standard)</p>
	<p>Team Members:</p> <p>Each appointment is strategic: tradeoffs needed</p> <p>Time budgeted to read before coming</p> <p>Require outputs from period between missions</p>
	<p>Consultants:</p> <p>Specialized input, short term</p> <p>CCER leaders to update key CCERs as needed</p>
	<p>Panel secretary and resource person: essential</p> <p>History of center and context of CG</p> <p>Task of panel chair to control</p> <p>Part of the safety net: reduces the variance among EPMRs</p>
	<p>Secretariat:</p> <p>Have a large pool of potential members</p> <p>Standing pool of candidates or consultants especially on governance and management</p>
Preparation and Use of Tools	<p>Surveys:</p> <p>Organizational culture</p> <p>Human Resources</p> <p>Other centers</p> <p>Partners</p> <p>Use of Information:</p> <p>Transparent sharing of results of survey of organizational culture and Human Resources</p> <p>Identification of good practices from EPMRs for discussion</p>
Accelerate the Process of Review	Bring Science Council and ExCo reviews together temporally or through mechanisms
Forward Looking AGM	Use AGM to look forward from review rather than back at it.

Annex 6: Databases and Information: Maintaining the capital of the CGIAR

Table A6.1 summarizes comments by various EPMR panels on the development, use and prospects for several key databases in the System. Although the entries are telegraphic in nature, they are reported for reference in support of discussion in Section 2.

Table A6.1: DATABASES AS RENEWABLE RESOURCES AND IPGs			
CENTER EPMR	EVALUATION	PROSPECTION	CONSIDERATIONS / COMMENTS
CIMMYT	1. Use of GIS enhanced by development of user-friendly tools and integrated with spatial databases	Greater emphasis on poverty analysis	
CIMMYT	2. Web-based, fully searchable metadata published using international standards that permit search and retrieval of spatial datasets plus direct interoperability with various GIS clients	1. GIS unit to be strengthened to serve to integrate databases institution wide. 2. Eventually combine data from plant breeding, conservation of GR and socio-economic studies	“Nevertheless, it is CIMMYT's collection of maize and wheat genetic resources, expertise and effectiveness in plant breeding for low input, high stress environments and capacity to act as a bridge to ensure the benefits of the advances in molecular genetics and genomics reach smallholders which are its unique strengths.”
IFPRI	1. Agricultural Science and Technology Indicators searchable on web	Part of ISNAR division. Other divisions are expected to work closely with it.	ASTI data is cited in most studies of research investments at global and national levels. A System and International Public Good that has historically been weakly supported from core budgets.
IFPRI	2 All information produced by IFPRI is collected, indexed, stored and maintained. Shared through Intranet and Internet. Have agreements with international databases to harvest IFPRI publications		IFPRI policy on joint use by collaborators and release to the public of data and information puts a limit on withholding data to allow first publication by IFPRI and collaborators.

Table A6.1: DATABASES AS RENEWABLE RESOURCES AND IPGs			
CENTER EPMR	EVALUATION	PROSPECTION	CONSIDERATIONS / COMMENTS
IPGRI	1. IPGRI obtained outstanding results in the area of conservation and storage technologies, in standardization of documentation and in development of inter-institutional PGR database	The assembly of baseline data from which to measure rates of erosion is still needed for most marginal and regional crops. IPGRI should establish "gold standard" GR methodologies and this is a task which is difficult when science is evolving rapidly	Panel recognizes the "risk that IPGRI could become data rich and information poor."
	2. SINGER and funding of the SGRP has been problematic. The broad work of the SGRP that generates system-wide public goods relating to GR is under-funded.	An evaluation of the cost-effectiveness of SINGER and its impact in different sectors should be carried out to sustain and increase external support for this activity	
ICRISAT	1. ICRISAT has developed large and informative GR and genomic databases. 2. Has overcome a lag relative to other centers scientifically and operationally in its efforts to integrate new science and tools in its crop improvement	The panel includes among recognized IPGs the protocols for high throughput genotyping	Panel comments that 94% of the collection has been characterized making the database the largest and one of the most comprehensive databases of SAT crops....and one of the best in the CGIAR centers
	2. Socio-economic databases from the Village Level Studies (VLS) are in the public domain.	Panel calls for more publications that explain productivity in the semi-arid tropics	
	3. Panel commended ICRISAT for genomic database of less-researched mandate crops...characterized as "original, unique and of immense value"	ICRISAT has begun to place some of the databases in the public domain. Efforts must be exerted to make these databases available to the larger community if they are truly to be considered IPGs.	Since EPMR discussion of IPGs and partly pure IPGs has advanced. The link to Intellectual Property and IPR strategy is discussed by the Science Council and practices supported by CAS-IP as part of the system office.
IRRI	1. Needed to recognize "how rapidly the center of gravity of rice molecular genetics would move out of IRRI and the CGIAR. IRRI needed to be on the	1. Panel questioned: Is IRRI going to take and sustain the lead in helping the scientific community to mine the virtual genetic	1) Panel: If it does not do this the argument for the germplasm remaining with IRRI may lose value and the CGIAR's position be undermined. 2). IRRI

Table A6.1: DATABASES AS RENEWABLE RESOURCES AND IPGs			
CENTER EPMR	EVALUATION	PROSPECTION	CONSIDERATIONS / COMMENTS
	inside of the progress and capable of using new information. 2. IRRI's studies of macroeconomic trends "piggy-backs on IFPRI's global model of all commodities.	information that is in the germplasm it holds uniquely on trust for the world and disseminate the information worldwide via linked databases. 2) IRRI should continue the development of a global informatics network related to rice genomics	supports INGER
ILRI	Special issue for panel: What are the IPG gains from ILRI's investment in spatial analysis and poverty mapping?	CCER noted capacity building in national statistical institutes, use of results by policy analysts and research planners, and called for more links to household models relating to livestock systems.	Note: the Joint Research Methods Group (part of formal efforts to align research support and corporate services between ILRI and ICRAF is expected to strengthen the capability of both centers.
	Part of expert panel to formulate DAD-IS (the FAO database for farm animal resources	Panel suggests that ILRI's DAGRIS expertise and information can be used to assist countries provide information for the country-driven DAD-IS system	Service or public good?
ICARDA	Strengthened germplasm documentation through linking the GR Unit databases	Will develop genetic information databases through the use of advanced information technology (especially those in the CAC countries)	The panel encourages Computer and Biometric Services Unit to continue developing activities in the biometrics and bioinformatics field.
IWMI	1. IWMI followed the last EPMR recommendation to invest in researching the use of relevant IT, modeling, remote sensing and GIS...These efforts are valued by a range of clients as evidenced by requests and downloads.	IWMI response to call for "more analytical work": 1) investment in the tools, databases, and models was designed to enable it to conduct more analytical work...as opposed to some of the social science work conducted in the past that tends to be more descriptive.	"IWMI is poised to build on the base established and to conduct more analytical and cross-disciplinary research"

Table A6.1: DATABASES AS RENEWABLE RESOURCES AND IPGs			
CENTER EPMR	EVALUATION	PROSPECTION	CONSIDERATIONS / COMMENTS
	2. IWMI is becoming an international repository of global public goods that can be freely accessed to support resource management	IWMI is strategically poised to become a global Knowledge Center	
WorldFish	The panel highlighted the center's success in several areas...(inter alia) global and regional databases and its work on global and regional models of demand and supply	The panel recommended that WorldFish clearly define its continuing involvement and role in the database (FishBase) including how the various demands on staff will be met. WorldFish responded that it is committed to full participation as consistent with its mission and strategy.	WorldFish is one of 6 partners in FishBase. Its participation is partly core funded and partly from projects (EU). Its responsibility under the MOU is to encode the data, maintain the IT team and develop new tools and areas in Fishbase for the conservation of biodiversity in ACP and Asian countries.

Annex 7: EPMR Commendations as Well as Recommendations

The meta-review team found it a useful exercise to document where EPMR panels specifically commended centers. The exercise might identify successes that can be imitated in particular circumstances or even good practices that could be adopted system wide. The overall picture might be useful to investors who can see innovation and vibrancy in the System. centers might get ideas whom to ask for specific details relating to particular improvements they are contemplating.

Table A7.1 creates some rough categories of actions or behaviors that panels felt were worthy of special commendation. For the most part these were straightforward and unambiguous compliments. The one area where the congratulation was systematically following by a qualification was in the area of financial health: centers that were commended for strong growth in income were likely to be cautioned about dependency on restricted funding and its associated risks of instability and bias toward non-IPG-generating activities. The meta-review team notes that this is the way research is funded in the present world; EPMR panel members are familiar are familiar with the problem and centers need to learn better how to swim in these waters.

Table A7.1 Centers Explicitly Commended for:		
Category	Center	Specific Action or Practice
Partnership	ICARDA	Collective action, consortium
	ICRAF	SEA region partnerships; ASB partnership award
	IRRI	Consortium for integrated multi-locational research became a "true partnership"
	IPGRI	Work in regions as facilitator, technical adviser and partner
	WorldFish	Establishing strategic alliance with ARIs
Impact Analysis	IFPRI	Methodology for analysis of impact of policy and socio-economic analysis
	IPGRI	Socio-economic analysis of PGR
	IRRI	Economic impact analysis of water saving technologies
	WorldFish	Impact pathways analysis
Bold Action	CIMMYT	Response to EPMR, restructuring management, reducing staff
Communications	CIFOR	Innovative communications tools
	IFPRI	Effective strategy, implementation
	IRRI	Continued output of high quality monographs and books
	ICRISAT	Village Level Studies on line
ICT-related	IFPRI	Quality of computer services (staff survey)
	IPGRI	SINGER database
	IRRI	Management of ICT: retrofit fiber optic, redundancy, on and off-site backup.
IPR	IRRI	Well founded policies on IPR and relations with the private sector

Table A7.1 Centers Explicitly Commended for:

Category	Center	Specific Action or Practice
New Frameworks	IWMI	New conceptual framework. Address water management in holistic manner (biophysical and social interaction); Aspire to be a "world class knowledge center"
Methodological Innovations	ILRI	Enabling innovation: approaches applied both in house and as a research theme.
	IFPRI	Tools and methods task force; other quality enhancing activities
	IRRI	"Paradigm shift" from upland rice to "rice in uplands." Recognize comparative advantage is in rice science and partnerships.
	IPGRI	Monitoring training effectiveness (Participant Action Planning)
	WorldFish	"Practice-oriented strategy" in Greater Mekong Region
Research Management	ILRI	Scientific advisory panel (external peer review)
	IWMI	Use of CCERs as program monitoring
	IFPRI	CCERs of all divisions on a rolling basis.
	WorldFish	Managing the matrix: three disciplines interacting with 6-8 regional portfolios.
BOT related	IRRI	Sent new BOT chair to Harvard course on non-profit governance
	ICRAF	Add financial expertise to board
Human Resources	CIMMYT	Improve diversity of staff
	ICRAF	Measures on health, safety, security
	ICRISAT	Following CCER adopted holistic approach, revised staff classification, community development on campus
	IFPRI	Staff quality and motivation high. Good gender balance
	IRRI	IRS performance appraisal: "highly sophisticated, objective, takes account of unique features of each staff member
	IWMI	Introduction many innovations: One Staff concept, increased diversity, leadership development, feedback instruments.
	IPGRI	360 degree evaluation of management
Financial Management	ICRAF	Internal auditor, monitoring financial health indicators
	ICRISAT	Implemented CCER on financial management. Cash management policies
	IRRI	Planning for implications of funding shifts in CG from core to challenge programs and restricted funding.
	ILRI	Good standards in a heavily project-funded system
Financial Health	IFPRI	Effective resource mobilization and reporting office. Growth of funding for country work; caution about impact on IPG production
	ICRAF	Growth of funding; caution about restricted funding share
	IPGRI	Rapid growth. New priorities good commended. Management of growth and regional devolution an issue

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Category	Person	Agency or Center	Office or Function
Alliance			
	Anne-Marie Izac	Alliance	Director, Alliance Office, Rome
Advanced Research Institutes			
	Christian Hoste	CIRAD, ECART	International and European Relations, CIRAD; Vice Chair, ECART
Center Board Chairs			
	Eugene Terry	ICRAF	Board Chair (at time of review)
	Andrew Bennett	CIFOR	Board Chair
Center Management			
	Emil Frison	Bioversity	Director General
	Masa Iwanaga	CIMMYT	Director General
	Saidu Koala	ICRISAT	Regional Representative, West Africa
	Frances Seymour	CIFOR	Director General
	David Kaimowitz		Director General (at time of review)
	Dennis Garrity	ICRAF	Director General
	Mahmoud Solh	ICARDA	Director General
	Willie Dar	ICRISAT	Director General
	Carlos Sere	ILRI	Director General
	John McDermott		Deputy Director General-Research
	Said Silim	ICRISAT	Regional Representative, Eastern and Southern Africa
	Joachim von Braun	IFPRI	Director General
	Robert Zeigler	IRRI	Director General
	Stephen J. Hall	WorldFish	Director General
Consultants			
	David Coombs	EC consultants	Meta-evaluation of CGIAR
	Rudy Ooijen		
Donors and Multilateral Organizations			
	Rob Bertram	USAID	Global Programs USAID/ESP/IRB Global Programs USAID/ESP/IRB
	Dana		

Category	Person	Agency or Center	Office or Function
Dalrymple			
Meredith Soule			
Cesar Falconi	IDB	Director, Rural Development, Representative to CGIAR	
Charles Haines	CIDA	Multilateral Programs, Representative to CGIAR	
John Lynam	Kilimo Trust	Director	
Ian MacGillivray	CIDA	Senior Policy Advisor, Multilateral	
Eija Pehu	World Bank	Senior Advisor ARD	
Paolo Sarfatti	European Commission	Directorate General for Development and Relations with ACP States	
EPMR Panels			
Niels Elers	CIFOR	Panel Chair	
Koch			
John M.			
Strawhorn			
Jeff Burley	ICRAF	Management/Governance Panel Chair	
John M.			
Strawhorn		Management/Governance	
Paul Vlek	ICRISAT	EPR Panel Chair	
Bruce Gardner	IFPRI	Panel Chair	
Jan Masaoka			
Lindsay Falvey	ILRI	Governance Panel Chair	
John Griffith			
K. William Easter	IRRI	Governance	
Jean-Yves Maillat	IWMI	EPMR Panel Chair	
Benedict P. Satia			
WorldFish		Management/Governance	
Ajit Maru	GFAR	EPMR Panel Chair	
Regional Organizations			
Njabulo Nduli			Information and Communications Officer
			Chair FARA; DDGBDM, National Department of Agriculture, South Africa
Science Council			
Ruben Echeverria	Science Council	SC Executive Director, Panel Secretary and Resource Person	

Category	Person	Agency or Center	Office or Function
	Peter Gardiner	Science Council	SC Officer, Panel Secretary and Resource Person
	Sirkka Immonen	Science Council	SC Officer, Panel Secretary and Resource Person
	Tim Kelley,	Science Council	SC Officer, Panel Secretary and Resource Person
<i>CGIAR Secretariat</i>			
	Namita Datta	CG Secretariat	Management Advisor
	Manny Lantin	CG Secretariat	Program Advisor

Bios of review team

Howard Elliott

Howard Elliott is an independent consultant working primarily in agricultural research system planning and institutional development. He earned a BA (Hon) in economics from the University of Manitoba, Canada, and M.A and PhD degrees from Princeton University, USA, with specialization in development economics, industrial organization and labor economics.

For more than 35 years he has worked in agricultural, university, and research system development. Following PhD research in Côte d'Ivoire, he taught economics at Makerere University Kampala under the Rockefeller Foundation's Education for Development Program (EFD). He subsequently ran an institutional development program for the University of Michigan to create a capacity for work in francophone Africa and did work on resettlement planning in Laos. Joining the Ford Foundation as Agricultural Program Officer and Assistant Representative for West Africa he promoted academic exchange between Anglophone and francophone countries. He then became Representative of the Rockefeller Foundation's EFD program in the DRC (then Zaire) and later in Brazil. While in the DRC he served as Director General of the Faculty Institute of Agronomic Sciences (IFA-Yangambi). In Brazil, he taught labor economics at the Federal University of Bahia as well as managing Foundation programs in health, agriculture and social sciences.

Moving to the International Service for National Agricultural Research in 1984, he served as Deputy Director General from 1986-2000 where he promoted the development of ISNAR as a research-based service. Following three years in Washington as an ISNAR staff member hosted by IFPRI working on cross-sectoral issues in agricultural research, he moved in 2003 to Uganda as Senior Technical advisor to ASARECA on the development of their strategic plan. More recently he has worked as a consultant to the Alliance (through ILRI) on the Regional Plan for Collective Action in eastern and southern Africa. Recent reviews have included the Kenya Agricultural Research Institute and CIRAD-DREI.

Maureen K. Robinson

Maureen K. Robinson is a consultant and speaker on topics relating to the leadership, governance and management of the nonprofit sector. In her work with nonprofit organizations, she focuses on board and organizational assessment and development, and strategic planning.

Ms. Robinson founded the education program of the National Center for Nonprofit Boards (now called BoardSource). During her eight-year tenure, she brought information, ideas and services to a broad cross-section of nonprofit organizations in the

U.S. and abroad about the value of governance and its role in strengthening the effectiveness of the independent, nongovernmental sector.

Prior to joining the National Center for Nonprofit Boards, Ms. Robinson held a variety of positions in the museum field. She was the director of legislative affairs at the American Association of Museums, and served in the Office of the Assistant Secretary of Museums at the Smithsonian Institution, where she conducted executive-level searches and managed special projects.

Ms. Robinson is the author of Nonprofit Boards that Work: The End of One-Size-Fits-All Governance (John Wiley & Sons); Developing the Nonprofit Board: Strategies for Educating and Motivating Board Members (BoardSource); and The Chief Executive's Role in Developing the Nonprofit Board (BoardSource). She was a consultant to the CGIAR Secretariat on the development of its initial reference guides for center boards of directors, and served on the EPMR panels for CIMMYT (2005) and ILRI (2006).