

Final Report

External Review of the
Information and Communications Technology
and Knowledge Management Program
(ICT-KM)

of the Consultative Group on International
Agricultural Research

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Executive Summary

An overview follows of the external review report of the Information and Communications Technology and Knowledge Management (ICT-KM) Program, covering the review process, background on the ICT-KM strategy and program, review findings, and recommendations.

Review Process

The Consultative Group on International Agricultural Research (CGIAR) Secretariat commissioned the first external review of the CGIAR's ICT-KM Program in early 2009. The World Bank has provided the bulk of the \$9.3 million in funding to the Program from 2003 through 2009 (projected), and the Secretariat has oversight responsibility for the use of these funds.

The objectives of the review were to assess the relevance, achievements, effectiveness and efficiency of the Program to date, and provide recommendations regarding means for improvement and future direction. The Panel reviewed extensive ICT-KM related documentation, conducted interviews by telephone and during site visits in Washington, DC and Rome, carried out a web-based survey, and had frequent Panel discussions regarding findings and conclusions, between May and July, 2009.

Background – ICT-KM Strategy and Program

The ICT-KM Program was established in 2002 with the appointment of the CGIAR's first Chief Information Officer (CIO). In 2003 the ICT-KM strategy was developed, which has guided the Program to date. Its vision was *“one of a CGIAR without boundaries, an internationally distributed, unified and open knowledge organization. CGIAR staff, regardless of their location, will collaborate in science, using high capacity computing and communication. The global public goods the CGIAR manages will be safeguarded, developed and made accessible for use by all stakeholders.”*

The 2003 strategy laid out programmatic thrusts associated with connectivity, content, and work culture, as well as related System-level coordinating activities. The strategy was followed by a 2004 Investment Plan, budgeted at \$4.8 million, which consisted of 14 projects intended to improve connectivity in the CGIAR and enable staff located in the most remote regions to access a range of online tools and services. This was followed by a 2006 Investment Plan, budgeted at \$3.2 million, which entailed eight projects designed to consolidate on gains from 2004.

The Program consists of a mix of decentralized projects located at various CGIAR Centers, and a central, globally-focused Program office based at Bioversity, in Rome. The office's staffing includes the CIO plus one part-time staff and two part-time consultants. The 2006 Investment Plan is largely complete, and the Program has no committed CGIAR funding beyond 2009.

Review Findings

The ICT-KM Program remains relevant and vital. The Program's 2003 strategic framework is still largely valid. ICT-KM's themes and priorities are heading in the right direction. Looking forward, the Program has important ongoing relevance to the CGIAR mission and direction. A new ICT-KM strategy should be collaboratively developed and aligned with CGIAR reform and business needs. The research community needs to be more

actively engaged in the Program and its future plans and activities, in order to create greatest value.

The Program has important accomplishments that have:

- ***Opened access to research results*** through the CGVirtual Library, the AAA (Availability, Accessibility, Applicability) Framework, and CGMap/EasyMTP – which to date includes research plans but should as a priority include results.
- ***Expanded knowledge sharing in the CGIAR*** through tools, including the Knowledge Sharing Toolkit (www.kstoolkit.org), workshops and events, such as the first Knowledge Share Fair for Agricultural Development and Food Security (January 2009 at FAO). The Program has supported researchers at the project level, fostered sharing of lessons learned (such as WorldFish Center’s “StoryMerical”), and been recognized for its role (as at the International Farmer’s Conference-ICARDA).
- ***Facilitated cross-Center collaboration*** through communities of practice (CoP); the CoP, some of which existed previously, have developed and become more active; four communities are currently supported by the ICT-KM Program: Information Technology, Information Managers, Consortium of Spatial Information (CSI), and Webmasters.
- ***Supported cost savings*** through system-wide purchases of software and services, resulting in cumulative savings estimated at more than \$3.7 million from 2003 through 2008.
- ***Built and leveraged partnerships*** in knowledge management (with FAO, IFAD, WFP, GFAR, among others), and in collaborative research projects with ICT-KM components (such as the AGCommons Program funded by the Bill and Melinda Gates Foundation).

The ICT-KM Program should better communicate the value of ICT-KM. The Program actively and effectively communicates through many means. However, there is limited awareness and use of many of the Program’s products and services, and the Program’s value could be multiplied through wider adoption – within the CGIAR and beyond. More targeted strategic communications are key. This should include targeted awareness-building of evidence-based knowledge sharing practices that can improve research results.

The Program should strengthen efforts to support a continuous learning culture in the CGIAR. The Program has developed relevant tools and services and, looking forward, can do more to foster a continuous learning culture within the CGIAR. This could occur through various means including: technology-enabled ones, such as the CGIAR expertise locator system (for creating information sharing connections); and capacity building training/workshops, such as in knowledge sharing. It also could include collaborating with others to build enabling policies and practices – such as incorporating selective ICT-KM related indicators into the CGIAR’s Performance Measurement System, to promote institutional change.

The ICT-KM project portfolio is generally well managed but the Program could improve its approach to quality control, and monitoring and evaluation. Project management has improved with the advent of dedicated resources to support project leads, and controls are in place. However, the Program should institutionalize a more formal and systematic approach to quality control. The Program should use project management software to track and coordinate projects, and develop a visual ICT-KM Project Dashboard (showing progress, expenditures to date, outputs/outcomes/impact, etc.). Steering committees or expert advisors should be engaged more consistently across projects to

enhance oversight. Outcome metrics that can be quantitatively measured should be incorporated into Program monitoring and evaluation.

The ICT-KM governance arrangement has served the Program adequately but should be changed in alignment with CGIAR reform. Program governance has evolved from an initial well-conceived but not high-performing arrangement to the current one, in which the CIO reports to the CGIAR Director and her host DG. The arrangement provides for oversight of leadership plans and activities but lacks a systematic mechanism for technical oversight. In addition, the arrangement does not position the Program to play a System-level role. The Program should be housed in the future office of the Consortium CEO, ideally co-located with other corporate service units. The arrangement should foster collaboration, transparency, and commitment to decisions – as well as programmatic excellence.

The CIO has accomplished much despite major challenges, including the need for a more focused role. The CIO has capably led the Program under difficult circumstances that include a huge job scope within a complex global System, lack of sufficient commitment at the System leadership level, limited authority, and insufficient staff support, to name a few. The CIO's office should be expanded and the CIO role reconfigured to enable greater focus, particularly on strategic System-level issues. Options should be aligned with the Program's next strategy/plan and related resource considerations.

The Program's effective decentralized approach can provide the basis for its future organization. The Program's Center-based project approach helps ensure relevance to needs on-the-ground, and can build capacity at Centers that lasts beyond project funding. Each project has a host Center and arrangements follow CGIAR protocols, including financial ones. While the Panel was not made aware of specific issues, the ICT-KM Program and Bioversity have not had a formal hosting agreement; one should be developed to reflect the new/emerging arrangements in the Consortium office. Looking forward to the Program's future organization and role, there may be opportunities to streamline CGIAR Center-based IT, knowledge management, and knowledge sharing functions into global or regional hubs of expertise, and/or to establish regionally-based advisory services; the ICT-KM Program can support efforts to create more unified and cost-effective approaches – a role that should become less complex under the Consortium's legal framework.

The ICT-KM Program has made great strides and has the potential to contribute much more to the CGIAR System and its research objectives. The Program should be an integral part of the new CGIAR. It should no longer be a fee-for-service operation – as is currently the case. In the Panel's view, the CGIAR should maintain its commitment to ICT-KM during this time of transition so that the Program will not lose momentum or valuable staff, and can build on past experience to better serve the future CGIAR.

List of Recommendations

Recommendation: The Panel recommends that the Program develop, through a collaborative process, a new strategy and investment plan that are driven by CGIAR business needs, clearly linked with System priorities, and have the buy-in of System leadership.

Recommendation: The Panel recommends that the ICT-KM Program integrate CGIAR research results into CGMap as a priority project.

Recommendation: The Panel recommends that the ICT-KM Program sharpen its communications strategy to build awareness of the value of ICT-KM initiatives to CGIAR operations and research results.

Recommendation: The Panel recommends that the ICT-KM reporting and governance structure be aligned with CGIAR reform, such that the Program is housed in the office of the Consortium CEO, and the CIO reports to the CEO or his/her designate.

Recommendation: The Panel recommends that the role of the CIO and the office's staffing be reconfigured to ensure that the Program has needed capacity to accomplish the goals set out in the upcoming strategy and investment plan.

Recommendation: The Panel recommends that the CGIAR incorporate selective ICT-KM indicators into the Performance Measurement System, to help motivate progress towards agreed-upon ICT-KM benchmarks.

Recommendation: The Panel recommends that the ICT-KM Program actively engage the research community in the Program and its activities, in order to achieve the greatest value for the System.

Recommendation: The Panel recommends that the Program institutionalize a more formal, systematic approach to quality control, and establish quantitative outcome metrics for each ICT-KM project.

Recommendation: The Panel recommends that the CGIAR invest sufficient, sustained resources in the ICT-KM Program, so that the Program can maintain momentum and be an integral part of the new CGIAR.

1 Introduction

1.1 Review Process

The Consultative Group on International Agricultural Research (CGIAR) Secretariat commissioned the first external review of the CGIAR's Information and Communications Technology and Knowledge Management (ICT-KM) Program in early 2009. The World Bank has provided the bulk of the \$9.3 million in funding to the Program from 2003 through 2009 (projected), and the Secretariat has oversight responsibility for the use of these funds.

The review was conducted by a two-person external Panel, the membership of which is shown in Annex 1. The terms of reference for the Panel are provided in Annex 2.

The review began with a briefing in the CGIAR Secretariat in May 2009, followed by a visit to IFPRI; the Panel met with ICT-KM staff in Rome in June 2009, along with selected staff from Bioversity and Rome-based partner organizations. A list of individuals, whom the Panel interviewed in person or by phone, is provided in Annex 3. Prior to, during and after these meetings, the Panel read a large number of documents, many of which may be found on the ICT-KM website. A list of documents is provided in Annex 4.

To supplement the interviews, the Panel conducted a web-based survey, which the chair circulated electronically to 258 people. Annex 5 presents further information on the survey method, analysis and results.

The Panel is grateful to Enrica Porcari, the Chief Information Office (CIO) of the ICT-KM Program for her responsiveness to our many questions, insights, and willingness to support the review process in every way; she was ably assisted by Tania Jordan, whom the Panel would also like to thank. The Panel greatly appreciates the time and valuable perspectives of the many people who spoke with us, communicated by email, and responded to the survey. Their investment of time and energy is a testament to the interest that many share regarding the ICT-KM Program and its future.

1.2 Review Report

The review report is divided into six main sections, which address the following topics:

Section 1 – Introduction to the review process and report overview

Section 2 – Background on global trends in information and communications technology and knowledge management, the response of the CGIAR, and evolution of the ICT-KM Program

Section 3 – The ICT-KM strategy and project portfolio, the evolution of these, the planning and prioritization process, and relevance of the strategy and investment

Section 4 – The ICT-KM project portfolio, mechanisms for quality control, monitoring and evaluation, and an assessment of the Program's performance

Section 5 – The Program's governance and management, the evolution of the governance structure, Program leadership and management, project management, host Center arrangements and finances, with an assessment of these

Section 6 – Looking forward at the CGIAR reform process and how the ICT-KM organization and strategy should be positioned to align with the future CGIAR

2 Background

2.1 The Knowledge Landscape

Generally speaking, the field of Information and Communications Technologies-Knowledge Management (ICT-KM) will continue to have a profound impact on organizations worldwide. Over the past ten years, through web-based and intranet technologies, we have the capability to evolve from isolated islands of knowledge to connected communities. We also have the ability to now form the bridges across these islands through knowledge management and knowledge sharing initiatives. Within an organization, knowledge management serves as an integrative mechanism to cut across the functional silos and stovepipes. Within an international context, knowledge sharing efforts, such as online communities of practice or thematic knowledge networks, allow people to easily reach out to others for knowledge and advice.

Certainly, in the public health and development disciplines, knowledge management can play a major role. In fact, Liebowitz et al's new book titled, *Knowledge Management in Public Health* (J. Liebowitz, R. Schieber, and J. Andreadis, eds.; Auerbach Publishing, July 2009), discusses some of the leading knowledge management efforts being applied through the World Health Organization, Pan American Health Organization, USAID, the World Bank, CDC, and many other organizations. The *Knowledge Management for Development Journal* (KM4D Journal) has been in existence since 2005, and CGIAR's ICT-KM Program has published special issues on approaches to promote knowledge sharing in international development organizations. Capacity building, social learning, sustainability, and innovation are all important topics affecting the international development community.

Organizations, like the CGIAR Centers, should be incorporating knowledge management tenets seamlessly throughout their organizations and leveraging knowledge both internally and externally to and from their stakeholders. As knowledge management is 80 percent people/culture and process, and 20 percent technology, these components must be actively considered in building a "knowledge organization", that is, an entity which exhibits a continuous learning culture. The "people" part is how best to build and nurture a knowledge sharing culture. The "process" component deals with how to embed knowledge sharing activities as part of everyone's daily work environment. Many organizations, including the World Bank, have learning and knowledge sharing proficiencies as part of the employee's annual performance review. The "technology" piece of the knowledge management puzzle is creating a unified knowledge network in order to enable knowledge sharing to take place. And today, there are many such enabling technologies, from established ones to emerging ones, such as cloud computing, Web 2.0, social media, Service as a Software (SaaS), multimedia and web mining, virtualization, among others.

Many organizations apply knowledge management for several reasons: increase innovation; develop the institutional memory of the organization; promote a greater sense of community and belonging; encourage organizational agility and adaptability to changing events; and improve organizational internal and external effectiveness. Knowledge management often takes on two general approaches: codification and personalization. Codification refers to a "collection", systems-oriented approach, such as through lessons learned/best practice databases, expertise locator systems, web-based online searchable multimedia asset management systems, and other systems. Personalization refers to the "connection" approach to knowledge management, such as through mentoring, knowledge

fairs, knowledge sharing forums, job rotations, and online communities. In the recent years and ahead, social media will continue to play a major role in knowledge management. Blogs, wikis, micro-blogs such as Twitter and Yammer, and various social networking sites will help shape the knowledge sharing environment.

Simply put, any organization who isn't involved in these types of knowledge management activities will be sub-optimizing and will fall behind in "working smarter, not harder". Knowledge management should be a key pillar of developing a human capital strategy and plays a chief role in succession planning and workforce development. Knowledge management will help organizations, like the CGIAR Centers, achieve their strategic mission and should really become a core competency in the CGIAR System.

2.2 The CGIAR System – Response and Program Evolution

The CGIAR's vision is to "reduce poverty and hunger, improve human health and nutrition, and enhance ecosystem resilience through high-quality international agricultural research, partnership and leadership." To reach this vision, the CGIAR has established 15 research Centers worldwide.

The nature of the CGIAR as a decentralized global operation presents many challenges that result in high need for or value of ICT. By the nature of the CGIAR's work (i.e., research), great value can be derived from knowledge sharing and knowledge management efforts through collaboration to generate and apply knowledge. These challenges/opportunities were recognized in efforts that date back to 1994, 1999, and 2001 and were noted in the 2003 ICT-KM strategy. It took almost ten years before the strategy developed and investments began. The ICT-KM Program's establishment and development has coincided with changes in the System aimed at becoming more unified.

There's been significant ICT investment at the level of the 15 Centers and, as has been recognized in the past, there is duplication. Great opportunities have and continue to exist for economies of scale and shared initiatives, particularly as the ICT field is rapidly changing. It was recognized that a System-wide Program can serve this niche.

Initial CGIAR discussions back in 1995 led to a 2001 recommendation, by the Information Technology (IT) Professional group of the CGIAR supported by the Information Management (IM) Professional community, to create the Chief Information Officer (CIO) position. According to "The CGIAR's ICT-KM Program Background Information for the External Evaluation Panel", the CIO position is "responsible for providing vision, strategic planning, and coordination of IT, IM, and KM (knowledge management) within the CGIAR system and responsible for identifying, championing, and coordinating areas of collaboration between CGIAR Centers and information domains for greater system-wide value" (p.3). In 2002-2003, the importance of knowledge management was recognized by some of the Directors General (DGs) in terms of applying knowledge management principles towards moving the CGIAR to a more effective collaborative organic system as opposed to 15 competing entities, and the ICT-KM Program was established.

The ICT-KM Program has a vision of a "CGIAR Without Boundaries" while also seeking to safeguard, develop, and make accessible for use by all stakeholders the global public goods that are managed by the CGIAR. The first stage of the ICT-KM Program, called the 2004 Investment Plan (IP04), focused on 14 projects around the themes of Connectivity, Content, and Work Culture, and two initiatives relating to Structure/Coordinating Actions. IP04 was budgeted at \$4.8 million. The second stage of the ICT-KM Program, 2006 Investment Plan (IP06), included eight projects under the same themes totaling \$3.2 million, budgeted. The

ICT-KM Program motto for this stage was “Collaborate, Create, Communicate.” Table 1 in section 3 shows the projects in the ICT-KM Program under the IP04 and IP06, which are assessed in section 4.

The first phase of projects, IP04, was a grass-roots approach whereby CGIAR Centers provided their input for possible ICT-KM projects. The focus of the first plan was mainly internal, directed at the 15 CGIAR Centers. The second phase, IP06, whose projects recently ended by June 2009, refined its focus to extend beyond the CGIAR Centers’ infrastructure to improving broader access to scientific data. The second phase had both an internal and external perspective in meeting the CGIAR’s main objective of improving agricultural development and reducing poverty through access to and use of data and information, and greater knowledge sharing in research.

3 ICT-KM Strategy

The 2003 ICT-KM strategy provided the broad direction for the Program's 2004 and 2006 Investment Plans, and an associated \$8.0 million in budgeted expenditures. An overview of the strategy and plans is presented below. This is followed by a discussion of the planning and prioritization process, and an examination of the relevance of the ICT-KM strategy and investments.

3.1 Overview of Strategy and Investment Plans

ICT-KM Program Three-Year Strategy (2003)

The ICT-KM Strategy, developed in 2003, provided the broad framework that has guided the Program to date. The document – which builds on initiatives from 1994, 1999, and 2001 to enhance system-wide collaboration in information and communication technology and knowledge sharing – sets out the following vision, goals and programmatic thrusts.¹

The vision ... is one of a CGIAR without boundaries, an internationally distributed, unified and open knowledge organization. CGIAR staff, regardless of their location, will collaborate in science, using high capacity computing and communication. The global public goods the CGIAR manages will be safeguarded, developed and made accessible for use by all stakeholders.

Goals – in the next five years, the CGIAR will:

- Transform the way it works, incorporating new ICT and KM practices to preserve, produce, and improve access to the agricultural global public goods needed by the poor in developing countries;
- Be a leading knowledge broker, bringing together all actors in an open, inclusive community for global public goods research for development.

Programmatic thrusts – included:

- Connectivity – ICT for tomorrow's science
- Content – for development
- Work culture – a CGIAR without boundaries

In addition to this broad strategic framework, the strategy document outlined the 2004 Investment Plan, criteria to guide formulation of projects, Program governance, the role of the CIO, monitoring and evaluation, and resource implications.

¹ Prior efforts included the 1994 System-wide Strategy on the Future of Information Activities in the CGIAR, the 1999 CGIAR Organizational Change Program that included knowledge management and sharing components, and a 2001 ICT Strategy Workshop that was organized by the ICT Sub-committee of the Center Directors Committee.

Table 1 – ICT-KM Investment Plans – 2004 and 2006

Project Title	Thrust	Lead Center	Start	End	Project Budget
Investment Plan 2004					
Desktop Video Conferencing	Connectivity	ICRISAT	Jun 04	Nov 05	\$73,800
Intelligent Information Systems	Connectivity	ICARDA	Jan 05	Mar 06	\$185,070
Global Advanced Research Networks	Connectivity	IRRI	Aug 04	Jul 05	\$111,600
Enterprise Security & Business Continuity	Connectivity	IRRI	Apr 04	Mar 06	\$465,000
Second Level Connectivity	Connectivity	ILRI	Mar 04	Feb 06	\$725,400
Consortium for Spatial Information	Connectivity	IWMI	Mar 04	Feb 07	\$465,000
E-Publishing Systems	Content	Bioversity	Mar 04	Feb 06	\$446,400
Virtual Resources Center Infrastructure	Content	Bioversity	Mar 04	Feb 06	\$390,600
Virtual Academy for Semi Arid Tropics	Content	ICRISAT	Apr 04	Sep 06	\$363,240
On-line Learning Resources	Content	ICRAF	Apr 04	Mar 06	\$213,900
Web Content and Usage Analysis	Content	Bioversity	Jan 05	Dec 06	\$190,900
Scientific Data Standards and Exchange: Capacity Development	Content	Bioversity	Jan 05	Jul 05	\$153,525
Virtual Library Service	Content	IFPRI	Jan 05	Jun 06	\$308,142
Knowledge Management and Sharing	Work Culture	CIAT	Mar 04	Feb 05	\$372,000
ICT-KM Investment Plan Coordination	Structure	WorldFish	Mar 04	Feb 06	\$250,000
ICT-KM Program Evaluation	Structure	WorldFish	Mar 04	Feb 05	\$103,000
Total					\$4,817,577
Investment Plan 2006					
Enterprise Security – Americas Regional Thrust (continued from IP04)	Connectivity	CIP	Jan 08	May 08	\$87,688
CGXchange	Content	Bioversity	Mar 07	Feb 09	\$1,008,000
CGVLibrary	Content	IFPRI	Mar 07	Apr 09	\$280,000
Quality CGIAR Digital Content for Learning	Content	CIP	Mar 07	Jan 09	\$118,000
CGIAR MAP	Content	Bioversity	Mar 07	Jun 09	\$200,000
KS: Scaling Up & Strengthening Champions (IKS)	Work Culture	CIAT	Jan 07	Apr 09	\$500,000
KS: Scaling Out (KSinR)	Work Culture	IWMI	Mar 07	Apr 09	\$500,000
ICT-KM Investment Plan Coordination	Structure	Bioversity	Mar 07	Feb 09	\$350,000
ICT-KM Planning for the Future	Structure	Bioversity	Mar 07	Feb 09	\$150,000
Total					\$3,193,688
TOTAL – 2004 and 2006 Investment					\$8,011,265

2004 Investment Plan

The 2004 Investment Plan included 14 projects clustered around the thrusts of connectivity, content, and work culture, as well as two initiatives relating to the Program's structure and coordination. The plan, budgeted at \$4.8 million, was intended to improve connectivity in the CGIAR and enable staff located in the remotest regions to access a range of online tools and services. CGIAR staff also was to be given the necessary know-how to collaborate and share information. The Investment Plan described each project, its objectives and expected outcomes, and noted the project coordinator, lead administrative Center, estimated cost, and project duration. Table 1 lists the projects in this plan. An assessment of the investment may be found in section 4.

2006 Investment Plan

The 2006 Investment Plan was designed to consolidate the gains from activities started in the 2004 Investment Plan, and to continue the process of planning for the future. Focal projects included the development, content, tools and services associated with the online CGIAR platform CGXchange, the CGVirtual Library, and CG-Map – and activities around improving CGIAR effectiveness through knowledge sharing techniques and methods. While the first plan was largely directed at strengthening the internal infrastructure and connectivity of the 15 Centers, the second plan, budgeted at \$3.2 million, included more emphasis on partnerships and access to CGIAR information. Section 4 provides an assessment of this investment.

3.2 The Planning Process

Seventy-eight percent of respondents to the Panel's survey (see Annex 5) indicated that they considered the ICT-KM Program strategy and investments to be relevant or highly relevant. A majority (71%) responded that the ICT-KM Program's planning and prioritization processes have been effective or highly effective. Concerns related to how decisions were made (particularly regarding the second Investment Plan), and the relatively limited involvement of researchers and other end users, from within and outside of the CGIAR. A description follows of the planning and prioritization process associated with the 2003 strategy and the two investment plans.

The 2003 strategic planning process involved a series of online consultations and a planning workshop that included clean-slate visioning. The process entailed the active participation of a 16-person Advisory Group, representing information professionals, research managers, senior scientists, and others from within the CGIAR (as discussed in section 5.1). An across-the-board stock taking exercise was considered unnecessary, and Advisory Group members were expected to seek input from the communities they represented. The plan drew upon the knowledge and expertise of those involved, their communities, and previous System efforts.

Simultaneous to the strategic planning process, the CIO, with involvement of the Advisory Group, invited the members of the ICT-KM-related professional communities of practice to develop and propose projects for inclusion in the 2004 Investment Plan. The Program engaged external consultants, who ranked the proposals based on assorted criteria. The highest scored projects were pursued and packaged around clusters. Following review from the Advisory Group, the CIO presented the Investment Plan to the Center Directors' Committee (CDC) for approval, following which the CGIAR Director reviewed and provided funding for the projects.

In March 2005, the CIO Office organized an intensive, two-week online consultation that involved 200 CGIAR staff, NARS partners and external experts. A principal aim of the consultation was to obtain perspectives, examples, and suggestions on how the CGIAR can best maximize the value of its global public goods. This input was expected to help guide the ICT-KM Program's next phase. However, based on the realization that more extensive planning would be needed – as well as the imminent completion of 2004 funding and limitations in Program capacity – the CIO determined that 2006 investments should be transitional, and focused on consolidating gains to date. She proposed selected projects for investment, based on a review of completion reports from 2004 projects and consideration of projects with the greatest potential; she also proposed a user study to develop a plan for future investments. The CIO presented her proposal to her host-Center DG, who proposed these to the CDC for approval and recommendation to the CGIAR Director for funding.

Overall, in the Panel's view, the 2003 and 2004 planning and prioritization processes were well conceived, consultative, systematic, and entailed rigorous analysis conducted by external experts. The "bottom-up" proposal development process involved those familiar with the challenges on the ground, and a wide range of players across the CGIAR had direct or indirect influence on programming decisions. In hindsight, the resulting portfolio was too diversified and ambitious. The 2004 process might have benefited from stronger top-down strategic direction and focus.

In 2006, the Investment Plan development and prioritization process shifted to a highly top-down one (particularly as the ICT-KM Advisory Group no longer existed). The planning and related decision-making process resulted in concerns about transparency and the lack of stakeholder engagement, as the CIO has recognized. The process was not optimal, but based on the Program's limited capacity and funding, and the importance of maintaining project momentum, the approach taken was reasonable in the Panel's view.

Looking forward, the next phase of ICT-KM strategic planning should involve ICT and KM experts from within and outside of the CGIAR, as well as researchers and other end users. The strategic direction should be aligned with that of the CGIAR, both in relation to newly emerging business needs as well as broader System priorities. Decisions should factor in the challenges and complexity of projects that require System-level cooperation and aim for System-level change.

Recommendation: The Panel recommends that the Program develop, through a collaborative process, a new strategy and investment plan that are driven by CGIAR business needs, clearly linked with System priorities, and have the buy-in of System leadership.

3.3 Relevance of Strategy and Investments

As mentioned in Section 2.2, the vision, mission, and strategy of the ICT-KM Program seem to be in alignment with the CGIAR's vision, mission, and strategy. The ICT-KM Program main themes of Connectivity, Work Culture, Content, and Structure/Coordinating Actions relate well to the key elements of a knowledge management strategy, namely emphasizing the codification ("collection") and personalization ("connection") approaches. The ICT-KM Program's themes are heading in the right direction. The 2003 ICT-KM Program strategic framework is still largely valid. With the CGIAR reform process underway, the ICT-KM Program will have to ensure that its goals are aligned with the emerging Consortium model. Articulating and communicating this ICT-KM strategy with the various stakeholder and end-

user communities is very important in order to continue the momentum that the ICT-KM Program has established over the past six years.

In hindsight, the ICT-KM Program probably was a bit too broad with the IP04 projects. As a result, some of these projects were successful and others fell short of expectations (as discussed in Section 4). However, for IP06, the scope of the ICT-KM Program was better adjusted and refined by continuing with the more successful system-wide activities that were started under IP04, with the focus on consolidating gains and planning for the future. The ICT-KM themes (Connectivity, Work Culture, Content, and Structure/Coordinating Actions) are in agreement with most knowledge management strategies. Many KM strategies are built upon three key elements of People, Process, and Technology. In the CGIAR ICT-KM parlance, the Work Culture/Coordinating Actions relate to People issues, Content/Structure relates to Process, and Connectivity relates to Technology. Thus, the ICT-KM Program is on the right path towards building its Program on these key pillars. Senior level CG commitment is needed to leverage and sustain the ICT-KM investment.

4 The ICT-KM Program

4.1 Assessment of ICT-KM Portfolio of Projects

The ICT-KM strategy and an overview of the investment portfolio are provided in section 3. Section 4 provides an assessment of the investment. This assessment draws from review of the Program's M&E findings, project and related reports, the Panel's survey results, interviews, trials of some of the Program's products, and independent judgment.

As shown in the onion diagram (Figure 1), the CGIAR ICT-KM Program has built its projects around four key themes (Connectivity, Content, Work Culture, Structure), along with Coordinating Actions. Emanating out from the inner layer shown in Figure 1, the areas of interest and related ICT-KM projects are linked.

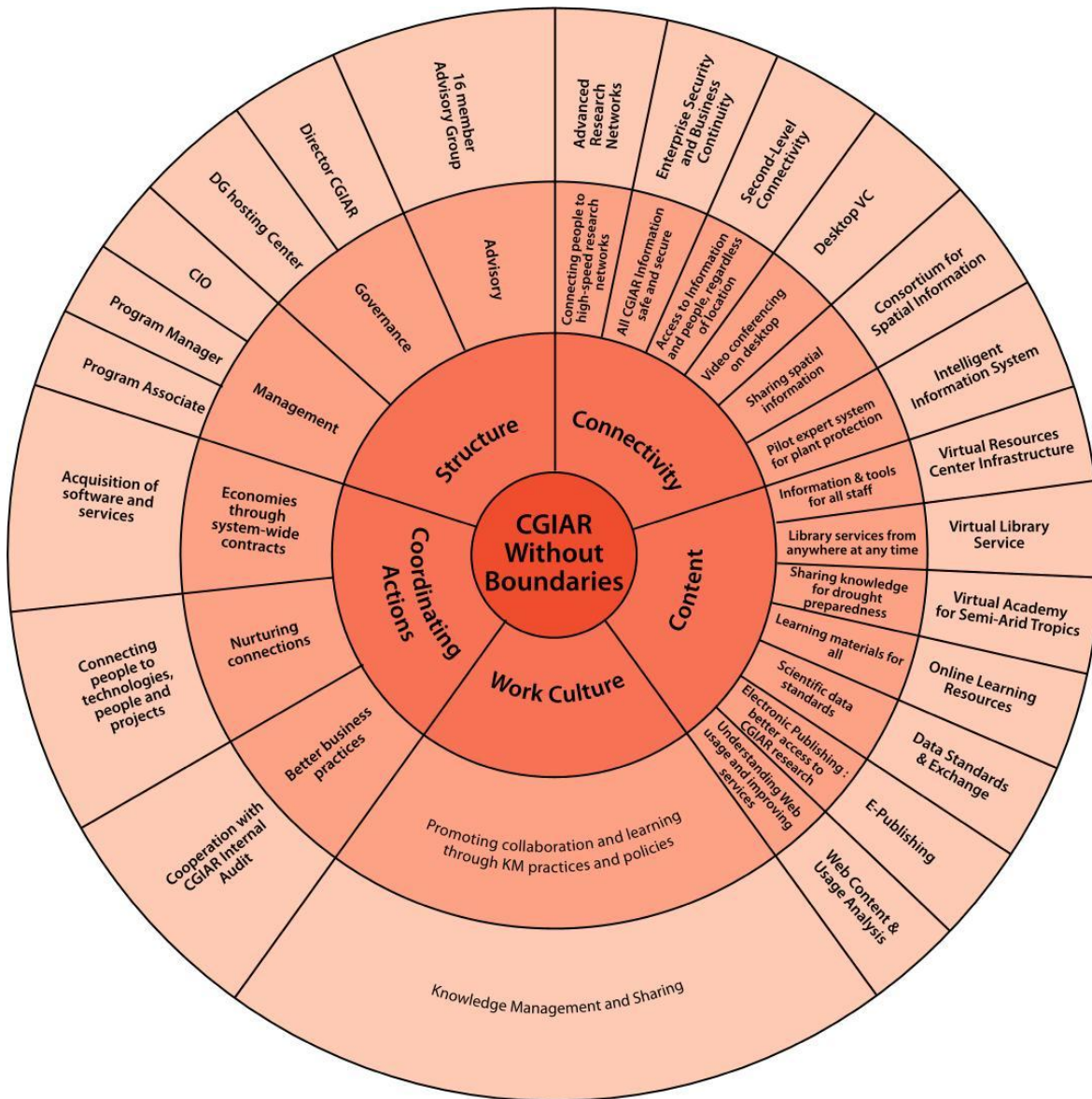
The Panel's survey (see Annex 5) explored perspectives regarding the effectiveness of ICT-KM projects. Table 2 sorts survey responses (from Question 3) from highest to lowest, based on the percent of respondents who rated the project "effective" or "highly effective." Responses are clustered in quadrants. Note that the percentages reflect the number of respondents who rated the item, and in some cases (such as the highly-rated VASAT project), very few respondents knew of the projects. Overall, the Coordinating Actions and Work Culture projects are clustered in the upper quadrants. The Content thrust has the greatest number of projects and span from most to least effective. The Connectivity themed projects have a large span from top to bottom; half are in the bottom quadrant.

Table 2 – Survey Results Sorted from Highest to Lowest Percent:

Question 3 – *How effective has the ICT-KM Program been in the following areas of investment?*

ICT-KM Projects – 2004 and 2006 Investment Plans	Percent Who Rated Project "Effective" or "Highly Effective"	Number Who Rated Project
Virtual Academy for the Semi-Arid Tropics (VASAT)	88%	32
Consortium for Spatial Information (CSI)	85%	59
CGMap	84%	83
Virtual library service	83%	75
Nurturing connections – communities of practice	80%	87
Economies through System-wide contracts, purchasing and agreements	77%	73
Institutional knowledge sharing (strengthening champions)	74%	84
Knowledge sharing in research (scaling out)	69%	86
Technical developments – papers and case studies	68%	63
Second level connectivity	67%	55
Digital content for learning	65%	63
Web content and usage analysis	65%	63
Online learning resources	64%	56
Enterprise security and business continuity	60%	45
Virtual resources center infrastructure	58%	55
Utilization of intelligent information systems for plant protection	57%	30
Global advanced research networks	55%	51
Scientific data standards and exchange: capacity development	53%	59
CGXChange	51%	82
Videoconferencing for enhanced collaboration	43%	63
E-publishing	35%	62
Total Who Answered Question		118

Figure 1: Themes/Areas of Work in the CGIAR ICT-KM Program



There are various accomplishments resulting from the ICT-KM projects. Ones of noteworthy importance include:

- Facilitation of communities of practice (CoP): Currently, there are four communities of practice that are enabled by the ICT-KM Program. These are: Information Technology Community; Information Managers Community; Consortium of Spatial Information Community; Webmasters Community. The IT and CSI communities seem to be more active than the other two communities. It would be interesting to develop online communities in other areas to reach out to scientists and other end-users of the ICT-KM Program.

- Opening access to research through CGMap/EasyMTP, the AAA (Availability, Accessibility, Applicability) Framework, and the CGVirtual Library.
- Developing the Knowledge Sharing Toolkit (www.kstoolkit.org), creating the WorldFish Center's "StoryMerical" to communicate key messages, organizing Knowledge Sharing Workshops, organizing the first Knowledge Share Fair for Agricultural Development and Food Security (January 20-22, 2009 in Rome at FAO), being recognized for the International Farmer's Conference-ICARDA, and assisting scientists in IWMI's Learning Alliances for WasteWaster Agriculture and Sanitation for Poverty Alleviation Project—all through the Institutional Knowledge Sharing and Knowledge Sharing in Research projects.
- Playing a System-level leadership role in the AGCommons Program (www.agcommons.org), funded through the Bill and Melinda Gates Foundation.
- Building partnerships in the knowledge management area with such organizations as FAO, IFAD, FARA, WFP, and GFAR.
- Saving money through economies of system-wide purchases of software and services. From the CIO's figures, shown in Table 3, the Program has saved more than an estimated \$3.7 million for the CGIAR, through 2008.

Table 2 – Estimated Savings through System-Wide Purchases, 2003-2008

System-Wide Agreements Signed	Savings (USD)						Total Savings (USD)
	2003	2004	2005	2006	2007	2008	
CDW - Microsoft Products	1,000,000	139,208	112,137	336,948	354,336		1,942,629
Zones					62,197	13,578	75,775
Electronic document delivery (Libraries Consortium)	800,000	80,000					880,000
CGNET		168,420	168,420	168,420	25,845	14,875	545,980
WinZip Site License		19,800		10,166		18,282	48,248
Internet Neighborhood Enterprise License		13,000					13,000
Surfcontrol		68,000	68,000				136,000
Websense					41,849		41,849
80-20 Retriever Software		15,000	15,000				30,000
Adobe Open Options CLP		17,800	6,059	1,048			24,907
Powerlite NX				11,828			11,828
EzProxy					2,970		2,970
AV: NOD32						23,680	23,680
AV: Trend Micro						19,873	19,873
TOTAL	1,800,000	521,228	369,616	528,410	487,196	90,288	3,796,738

Certainly, other accomplishments of the ICT-KM Program exist, such as:

- The CIO office costs about \$300,000/year, but negotiated savings are approximately \$450,000/year on average.
- The “Connectivity, Content, and Culture” thrusts match other KM initiative goals of comparable organizations, such as The World Bank, USAID, WHO, FAO, and IFAD.
- The survey results suggest that the ICT-KM Program has made progress towards achieving each aspect of its mission (particularly, improving access, sharing, and use of information and knowledge; strengthening a collaborative CGIAR work culture; obtaining economic savings within the CGIAR; and to a lesser degree, making the CGIAR an international model and leader in the application of ICT-KM).
- The survey results indicate that the ICT-KM Program has been effective in relevance of Program strategy and investments; Program planning and prioritization processes; Governance of the Program; ICT-KM Program leadership; Project-level oversight and controls; Management of projects; Potential contribution to the CGIAR in coming years.
- Certain ICT-KM projects have been more successful (e.g., CGMap, EasyMTP, CGVirtual Library, Nurturing Communities of Practice/KS Toolkit, Consortium for Spatial Information, AAA Framework, possibly VASAT) than others (e.g., CGXChange, Enterprise Security and Business Continuity, Videoconferencing, E-Publishing); however, looking at the total ICT-KM project portfolio, the ICT-KM projects generally seem to be well-received.
- The ICT-KM program has “touched” about 7,000+ individuals internally within the CGIAR and about 180,000+ individuals externally, based on Program statistics.
- The ICT-KM Program Lead has the “passion” and knowledge for implementing knowledge management initiatives at the CGIAR and beyond.
- Communication activities of the ICT-KM Program seem to be active: 50,558 unique visitors and 887,677 hits of the ICT-KM web site from 2005-2008; from January 1- April 22, 2009, there were 1,984 visits from 99 countries worldwide; the ICT-KM blog has had on average 1,044 views a month since June 2007 with a sharp increase since November 2008 (in February 2009, there were 3,521 views).
- Strong external partners exist (e.g., FAO, IFAD, GFAR, WFP, etc.) with the ICT-KM Program (such as the recently successful, and first, ShareFair in early 2009).
- Two of the ICT-KM projects (Knowledge Sharing in Research and CGMap) were selected as two poster session winners at the Science Forum 2009 (May 2009).
- In-person interviews, telephone interviews, and site visits were generally very positive of the ICT-KM Program.

Key shortfalls of ICT-KM project expectations include:

- Establishing a common policy or operational practice guidelines on quality assurance for training and evaluation at CGIAR system level (Online Learning Resources Project Final Technical Report-2nd Phase 2007-2008; Prepared January 2009).
- Achieving the ICT-KM Enterprise Security and Business Continuity objective—namely to achieve viable, ongoing Enterprise Security and Business Continuity procedures within all Centers, to strengthen the overall risk management environment, and secure

intellectual property. In hindsight, this objective may have been overly ambitious given the various Center cultures. The ESBC project was previously audited, problems were identified, and improved practices in ESBC are being developed.

- Establishing adequate videoconferencing capabilities across all Centers in order to reduce travel and ensure adequate project collaboration, communication, and management.
- Gaining full adoption and use of the CGXChange across the Centers.
- Applying e-publishing for better access to CGIAR research.
- Balancing an ICT-KM Project Leader's time between the ICT-KM Project duties and Center responsibilities (part-time allocation of the ICT-KM project leader increases the stress on effective management of projects—i.e., be sure that the projects are sufficiently budgeted).

Various challenges to the ICT-KM Program exist, including:

- The CIO's/ICT-KM Program Lead's office is under-staffed and under-budgeted for the wide range of activities required as part of the ICT-KM Program and CIO's duties.
- Stronger supportive relationships with key individuals in the CGIAR are needed in order to sustain and advance the ICT-KM Program.
- Stronger lines of authority are needed within the CGIAR in order for the ICT-KM Program to meet its strategic goals.
- Like many KM projects, tangible benefits are often difficult to quantify versus the intangible benefits through serious anecdotal evidence (perhaps the Outcome Mapping Methodology will help in this regard).
- Cultural issues may perhaps impede some of the effectiveness of the ICT-KM Program.
- The perspectives of the IT community differ from those of the IM/KM community, which can create conflicting priorities.
- Inclusion of scientists still remains a challenge, but their involvement is important in order for the ICT-KM Program to reach maximum effectiveness.
- Effectiveness of the ICT-KM Program may be limited if frustration occurs on behalf of the ICT-KM Program Lead, as well as people leaving due to short-term consulting contracts on ICT-KM projects.
- As the IP06 program has ended, lack of funding during the transition period may decrease the effectiveness of the ICT-KM Program.
- Project leadership on the ICT-KM projects is often on a part-time basis, which could again reduce the effectiveness and impact of the ICT-KM Program.
- Some people don't fully understand the value of "knowledge management", especially those with hard science backgrounds.

Table 4 shows a look at each ICT-KM project in terms of the corresponding theme, whether project goals were met, and key outputs, outcomes and impacts. The Work Culture, Content, and Structure themed projects seem to be meeting their goals, but the Connectivity themed projects need improvement.

Table 4: Project Accomplishments by Theme since 2003

Theme/Project	Project Goals Met	Major Output/Outcome/Impact
Structure		
ICT-KM Investment Plan Coordination/Economies through System-Wide Contracts	Yes	More than an estimated 3.7 million USD saved from 2003-2008 through system-wide approaches to purchasing of relevant goods and services
ICT-KM Program Evaluation	Yes	Organized sessions on improving access and availability to research outputs; AAA Framework; Joint workshops with external partners; Developed EasyMTP to guide the completion of Medium Term Plans
ICT-KM Planning for the Future	Somewhat	ShareFair 2009; Strategic Technologies for 2009 assessment
Connectivity		
Second Level Connectivity	Yes, but needed to extend timeline for finalizing outputs	Upgraded internet connections; had difficulties with some of the Africa sites
Consortium for Spatial Information	Yes	CIO's office was recently selected to manage a new initiative that promises to place CGIAR's CSI in a strategic leadership role
Enterprise Security & Business Continuity	No; Extended timeline for finalizing outputs; audit was conducted; scope was too ambitious	Overall objectives were to achieve viable, ongoing ES and BC procedures within all Centers, to strengthen the overall Risk Management environment, and secure intellectual property; CGIAR Internal Audit Team has been involved to help cull out good practices in the ES area (ES was achieved to a much higher degree than BC)
Enterprise Security - Americas Regional Thrust	No; had to re-scope to develop good practices	This was not a new project but a subset of the ESBC project; the America's BC phase was deferred to 2008 pending analysis of lessons learned from the Asia and EMEA BC projects
Global Advanced Research Networks	Somewhat—seed investment, but no further Program funding	High speed network access
Desktop Videoconferencing	Somewhat—seed investment; no further Program funding	Videoconferencing is still not very uniform across the Centers for inter-Center collaboration
Intelligent Information Systems	Somewhat—seed investment; no further Program funding	Plant protection pilot expert system for crops—don't believe it was developed into a full production system
Content		
E-Publishing Systems	No; seed investment but no further funding	Hoped to develop a common publishing workflow

Virtual Resources Center Infrastructure	Somewhat	VRCI experimented with building infrastructure for CGXChange; now CGXChange is built using Web 2.0 tools
Virtual Academy for Semi-Arid Tropics	Yes	Has become one of ICRISAT's six mega projects
Web Content and Usage Analysis	Yes, but needed to extend the timeline for finalizing outputs	Focused on the initial content, marketing, and evaluation of CGXChange; Evaluation guides for CGXChange were developed with an initial evaluation of CGXChange
Scientific Data Standards and Exchange: Capacity Development	Somewhat—seed investment, no further Program funding	Provided training for accessing scientific data
CGXChange	Somewhat—a CGIAR System's intranet was built, but the Centers seem to rely on their own intranet	User adoption is still an issue as most potential user groups are already familiar with MS SharePoint, which integrates seamlessly with common Microsoft desktop applications; CGMap was the killer app for CGXChange
CGVLibrary/Virtual Library Service	Yes	Marketed its services through 23 webinars to audiences mostly in Latin America; 167 website links and 11 blogs linking to the CGVLibrary; more than 180 online databases and over 4,000 electronic book and journal titles; in December 2006, this project received the CGIAR Science Award for Outstanding Scientific Support Team, in recognition of their work in creating the CGIAR Virtual Library
Quality CGIAR Digital Content for Learning/Online Learning Resources	Somewhat	Quality assurance and management toolkit has been developed for print and the web; CGIAR training officers agreed on a standard on quality management, assurance, and metrics for CGIAR training and evaluation; Moodle repository hosts more than 500 learning resources
CGMap	Yes	One location for all CGIAR MTP information with cross-search functions and analysis
Work Culture		
Knowledge Management and Sharing	Yes	Morphed into the IKS and KSinR projects
KS: Scaling Up and Strengthening Champions (IKS)	Yes	The KS toolkit includes over 80 methods and tools (including how to create a "storymercial") and has on average 10,000 visitors per month and many contributors; three pilot initiatives (strategic planning-CIFOR; research data management-IRRI; research communication-WorldFish); Knowledge Sharing Workshop
KS: Scaling Out (KSinR)	Yes	Six pilot projects for open access to research (ICARDA, IWMI, CIFOR, IWMI, IRRI, WorldFish); ShareFair 2009

In filtering the survey responses, some interesting results appear. We filtered by CG researcher (27 in number) versus CG staff (non-researcher; 67 in number), excluding those who self-identified as Non-CG. Relative to the non-researchers, the researchers see:

- Question 1 – Overall accomplishments favorable but less so
- Question 2 – Strategy equally valid; project management/oversight favorable but considerably less so
- Question 3 – Project-specific results mixed—just over 50% positive and just under 50% negative (counting only projects that 10 or more researchers actually know about).

This illustrates some dichotomy between the views of the researchers and those of the CG staff, especially since we were provided with the names of researchers who are aware of the ICT-KM Program from the ICT-KM Program Lead. For the future, the ICT-KM Program must continue to find ways to actively involve the research community to further enhance the Program's results, adoption, and value.

The “One-Stop-Shop” for CGIAR information is being provided primarily through CGMap. CGMap has the potential to be one of the highlights of the ICT-KM Program—that is, a one-stop information hub. Thus far, CGMap incorporates Centers' research plans, but few, if any, research results—information that is very much demanded by donors and stakeholders. While CGMap has not achieved its potential yet, the quote often used with CGMap is, “The CGIAR was the best kept secret: with CGMap the secret is out!” Integrating research results into CGMap can dramatically increase access to – and the influence of – CGIAR research, globally.

Recommendation: The Panel recommends that the ICT-KM Program integrate CGIAR research results into CGMap as a priority project.

The ICT-KM Program is effectively using technology (e.g., as social media), but could improve through the use of other advanced technologies, such as data/web mining, to look for hidden patterns and relationships in data-intensive applications. Similarly, videoconferencing capabilities still need improvement across the Centers in order to promote inter-Center project team collaboration. In terms of the objectives and focus of the ICT-KM Program, the Program's vision, mission, and objectives are still relevant moving forward. Certainly, learning took place from the IP04 to the IP06 phase in order to refine the most value-added projects for the CGIAR and stakeholder communities. The next ICT-KM Program strategy will have to ensure that the Program remains strategically aligned with the CGIAR and its reforms. Phase 2 (IP06) built on the gains of the first phase (IP04), especially in the knowledge sharing and codification areas. Last, the ESBC project which was audited didn't achieve its original goals primarily due to over-scoping and cross-cultural Center issues. By now producing “good practices” from this ESBC project, this should help ensure improved Enterprise Security and Business Continuity at the Centers in the future.

4.2 Communicating the Value of ICT-KM

Communications is an important part of the ICT-KM Program in “getting the word out” about the benefits of engaging in knowledge sharing efforts. The ICT-KM Program has been active in this regard, through their many publications, ICT-KM web site, recent January 2009 ShareFair, Wikis, DGroups, ICT-KM Blogs, online project chats, regular quarterly newsletters, Program updates, and other communications mechanisms. However, further work is needed for “targeted communications” at the scientist's level to build awareness to

change behaviors/approaches to improve research results. As expressed in the interviews and site visits, it appears that the communications reach has perhaps impacted more individuals externally (e.g., FAO, IFAD, Gates Foundation (through CSI), etc.) than those internally within the CGIAR system. Certainly, organizations like FAO and IFAD are already incorporating knowledge management/knowledge sharing as a core competency in their organizations. CGIAR needs to do the same.

A challenge for the ICT-KM Program, from a communications standpoint, is how best to reach the researchers and other end users to show the value of these ICT-KM efforts. Certainly, if the scientists were to identify and collaborate with others through the ICT-KM project-related efforts, creativity and innovation could be stimulated by connecting to those even outside one's own discipline (in social network analysis parlance, we call these "weak ties"). New collaborations could generate novel ideas which could lead to research publications and innovative techniques. This would demonstrate to the research scientists the value-added benefits of a program like ICT-KM. Engaging the scientists more actively as part of the ICT-KM Program will also further the Program's credibility.

The ICT-KM Program's mantra, "Collaborate, Create, Communicate", recognizes the importance of "communication" as part of the ICT-KM Program's pathway to success. Part of the challenge of knowledge management, as pointed out earlier, is to show the value-added benefits of knowledge sharing efforts. Anecdotally, these have been highlighted through various communications channels via the ICT-KM Program, as well as evidenced by other knowledge sharing efforts elsewhere, such as at The World Bank. The ICT-KM Program should establish "hard metrics" for each project which will measure quantitative outcomes and impacts. This would then further convince the scientific community as to the benefits of the ICT-KM Program, and knowledge sharing in general, by further developing the "science" behind the "art" of knowledge management (e.g., Skandia developed an intellectual capital navigator report, which quantified their human, structural, and relationship capital, to accompany their annual report sent to each shareholder).

Recommendation: The Panel recommends that the ICT-KM Program sharpen its communications strategy to build awareness of the value of ICT-KM initiatives to CGIAR operations and research results.

The communications strategy will be more effective if based on a demand-driven portfolio of projects, which should emerge from the next ICT-KM strategic/investment planning process.

4.3 Monitoring and Evaluation, and Quality Control

ICT-KM Program documents on Monitoring and Evaluation (M&E) include: "2006-Monitoring and Evaluation for Learning: The ICT-KM Program Experience", "ICT-KM Program M&E Final Project Report 2004-2006," and "M&E Report on the ICT-KM Program (April 14, 2006; Terry Smutylo). These reports echo the importance of incorporating M&E activities as part of each ICT-KM project. The adoption of the Outcome Mapping Methodology and associated training sessions for ICT-KM project leaders has been a positive direction for institutionalizing M&E activities within the ICT-KM projects. Outcome Mapping "points an initiative towards finding out those people, if any, whose behavior is responsible for the initiative's success, and then sets up data collection points to track significant, related behavioral changes" (2006-Monitoring and Evaluation for Learning: The ICT-KM Program Experience, p. 7). It seems to be a valid framework to use for monitoring and evaluation, although it may be more effective if project teams have someone with a formal background in evaluation to better apply this methodology.

Each year, the Program's annual report aims to incorporate an assessment of the quality of the M&E work in the Program along with suggestions for improvement. Some of the ICT-KM Program annual reports contain this M&E section, but the latest ICT-KM Program 2008 Annual Report didn't seem to have this M&E section. However, many of the ICT-KM project reports discuss the M&E activities (such as the March 2008 Knowledge Sharing in Research project report indicating the need for "a better M&E approach for the Knowledge Sharing in Research project and its pilots"). The M&E activities for each ICT-KM project should be required to be sufficiently discussed in each project report.

From a quality control and administrative oversight perspective, the Program has a variety of mechanisms in place, as described by Enrica Porcari. ICT-KM CIO (July 20, 2009): "... written guidelines for project coordinators for technical and financial reporting, review of financials by the project coordinator's host institution finance office, email phone and face to face communication between my office and the project coordinator and their team, participation by my office in project meetings wherever possible, review of technical reports by my office with follow up with project coordinators, review of results by Secretariat and follow up as appropriate. Technical and financial reports were initially requested every six months, but project leaders unanimously requested that these requirements be lightened (especially for the projects where no dedicated time of project management was paid) then usually on an annual basis depending on the length of the project. All projects comply but with varying degree of completeness. The timeliness was satisfactory but at times it had to be pursued. The quality varied dramatically. Technical reports were prepared by project coordinators and their teams, financial reports were prepared by the host Center's financial office. Both reports are submitted to me (ICT-KM Program Lead) by the Grants Office of the implementing Center which ensures accuracy and completeness. Once I receive them and review them I submit them all to the Secretariat. After their review and approvals disbursements are made."

The ICT-KM Program may want to institutionalize a more formal, systematic approach to quality control. Areas for improvement may be use of a standardized project management software across all the Projects for ease of tracking, as well as a ICT-KM Program Dashboard to get a quick glimpse of the progress of the projects, monies used, outcomes and impacts gained, etc. Project/technical reports should also be required every 6 months versus annually. Lessons learned from the CGIAR ICT-KM Program are shown in the Appendices.

4.4 Overall Assessment of the ICT-KM Program

The overall assessment of the ICT-KM Program is as follows:

- **The ICT-KM Program remains vital and relevant.** Key areas to improve upon include: involving the research community more actively in projects for improved project adoption and value; strategically aligning the ICT-KM Program goals with the evolving Consortium's strategy; work synergistically with the Institutional Learning and Change (inter-Center) initiative, as each could contribute to the other.
- **The ICT-KM Program could use some improvement with respect to quality control and monitoring & evaluation.** Key areas for improvement are: the ICT-KM Program should institutionalize a more formal, systematic approach to quality control; provide a visual ICT-KM Project Dashboard (including project progress, impacts/outcomes, monies used to date, etc.); should further use project management software to track and coordinate projects; require project/technical reports every six months versus annually

map research results within CGMap; establish specific outcome metrics for each ICT-KM project which could be measured quantitatively, such as in economic savings.

- **The ICT-KM Program could use some improvement with respect to building a CGIAR continuous learning culture.** Key areas for improvement are: develop specific CGIAR learning and knowledge sharing proficiencies, similar to the World Bank, as part of everyone's annual performance review in order to further recognize and reward people for promoting knowledge sharing efforts; encourage the CGIAR community to be "reflective practitioners" through building a continuous learning culture via ICT-KM initiatives; further develop the CGIAR "who knows what" expertise locator system (in order to help create connections and learn from each other).
- **The ICT-KM Program is generally doing well with respect to internal and external communications.** Key areas for improvement are: the ICT-KM Program should further communicate and publicize its economic savings and tangible benefits within the CGIAR and beyond; continue to articulate the ICT-KM Program strategy in various venues (e.g., Annual Research Conferences at Centers) and communications media.

5 Governance and Management

The ICT-KM Program is small and agile, with ambitious System-wide goals and a cumulative investment of roughly \$9.3 million from 2003 through 2009 (projected). This section discusses the Program's governance and leadership structure, Program leadership and management, project management, host Center arrangements, and finances. It examines past experience and opportunities for future improvements.

5.1 Leadership and Governance Structure

The ICT-KM Program's governance and leadership structure, as described in the 2003 ICT-KM strategy, *was designed* to be:

1. Highly collaborative
2. Multidisciplinary in expertise
3. Cross-Center in representation
4. Linked to System authority at the DG level

In the view of the Panel, these four design criteria are critical to the success of the ICT-KM Program. The initial structure did not function effectively and was changed. The current model lacks the formal structure and informal mechanisms to serve these critical needs. This has hampered the Program's effectiveness. The Program is perceived, in the words of one CGIAR leader, as "an appendage without a home" and, in the words of another, "adrift."

This section describes how the structure has evolved, the current model, and recommendations for the future.

Initial Structure – As Designed

The initial governance and leadership structure of the ICT-KM Program, as described in the 2003 strategy, involved the CIO with active involvement of an Advisory Group (AG) and reporting to the Center Directors, as follows.

Chief Information Officer

The CIO is responsible for providing vision, strategic planning, and coordination of ICT, IM and KM within the CGIAR System. The CIO will identify, champion, and coordinate areas of collaboration between and among CGIAR Centers and for greater System-wide value. The CIO provides both System-wide strategic leadership and Center-specific advice and support. The CIO has additional responsibilities, jointly with the Advisory Group.

Advisory Group

Together, the CIO and the AG were to "provide a strategic, open and transparent mechanism for promoting the implementation of ICT and KM approaches that support the CGIAR as an integrated system." The Advisory Group was to participate with the CIO in identifying ICT-KM priorities, supporting the preparation of action plans, and championing their implementation. The CIO and the AG were jointly responsible for overseeing ICT-KM activity implementation and associated learning, and for raising funds.

The Advisory Group was composed of 13 or more representatives from several communities of practice and management groups within the CGIAR, including IT, IM, and scientists, among others; the Chair of the ICT-KM Sub-committee of the Center Directors' Committee

(CDC) and the Director of the CGIAR (to whom the CIO reported) were ex-officio members. Members were to be selected based on a set of criteria that included understanding of the CGIAR vision, relationships with CGIAR clients and stakeholders, ability to devote time and serve as a community of practice representative. The Group had clear terms of reference and procedures associated with membership. Their work was to be carried out virtually with in-person meetings about once a year.

Reporting

The CIO initially reported functionally to the chair of the ICT-KM Sub-committee of the CDC and the Director of the CGIAR; administratively she reported to the DG of the host Center (initially WorldFish).

Structure Evolution

Between 2003 and 2006, the Program's governance/leadership structure had evolved from its initial arrangement as a result of broader changes in the CGIAR and in response to a 2006 Audit of the Management and Governance of the ICT-KM Program. The audit identified shortcomings with the Program's reporting structure and the functioning of the AG, and concerns regarding the large role of the CIO.

Reporting

In 2005, the ICT-KM Sub-committee of the CDC was disbanded, and the CIO's reporting was narrowed to the CGIAR Director and host Center DG. The 2006 Management and Governance Audit noted that the involvement of the CDC Sub-committee provided greater participation of the CGIAR leadership in the Program than the new arrangement. "The greater visible involvement of the Center leadership is advantageous to a change program of this nature as the Directors serve as visible change champions for all other individuals in the CGIAR resulting in greater uptake of the changes envisaged by the Program." The Audit recommended that the Program carry out an evaluation of the reporting arrangement and make proactive recommendations regarding a more suitable one.

Advisory Group

In addition to noting shortcomings with the ICT-KM reporting structure, the 2006 Management and Governance Audit concluded that the effectiveness of the Advisory Group was questionable given its composition and *modus operandi*. Challenges discussed included the absence of a mechanism to ensure that the AG fulfills its role, lack of clarity among members regarding their role, composition that cannot effect changes within the Centers (not senior enough), membership that is not necessarily representative of the views of the respective communities of practice, dual roles of some AG members as ICT-KM project leaders (and an associated perceived conflict of interest), and lack of dedicated funding to support meetings and roles. The Audit recommended that an in depth evaluation be conducted of the AG to determine what changes would be advisable.

Modified Structure

In response to the recommendations of the 2006 Governance and Management Audit, as well as experience to date, the CIO proposed a new structure that included the elimination of the AG and establishment of a steering committee for the Program as a whole, and steering committees for major projects. The CGIAR Director and host DG felt that the proposed structure was too heavy, among other concerns, and that light, lean governance

was essential. They determined that the AG, which was largely inactive, should be disbanded and the CIO should continue to report to the two of them, although other options could be explored. In addition, as a System Office Unit, the Program would report annually to the System Office Oversight Committee, which the Alliance Executive (which succeeded the CDC) established in 2006.

Chief Information Officer

The 2006 Management and Governance Audit concluded that the tasks of the CIO were too broad to be effectively carried out by one person. As it noted, some of the tasks had been allocated specifically to the CIO while some were allocated to the CIO and AG jointly. In the absence of a well functioning AG – and once that body was disbanded – the joint tasks were left with the CIO. The Audit recommended that the tasks should be reviewed and that a full-time staff person be appointed to support the CIO, and such a position was built into the 2006 Investment Plan.

Current Arrangement and Challenges

Since 2006, the CIO has reported to the DG of Bioversity, the Program's host Center, and to the CGIAR Director (her management). The CIO prepares a detailed annual work plan for their approval and presentation to the System Office Oversight Committee, which makes recommendations to the Alliance Executive regarding associated funding; she also provides annual informational updates to the Alliance Deputy Executive. The CIO provides periodic written reports to her management on progress and issues. She meets with the two for her annual performance appraisal, and occasionally during the course of the year to discuss progress and issues. While the processes in place are well designed and carried out, the arrangement is largely administrative. While the CIO's managers make themselves available when requested, the ICT-KM Program is peripheral to their primary areas of responsibility, which are quite significant.

To support Program oversight and provide input into the 2006 Investment Plan, in 2006, internally commissioned external reviews were conducted of the Program's governance/management (noted above), finances, and monitoring and evaluation. These provided valuable input to support the Program's lean governance arrangement. The Program followed up on almost all of the recommendations contained in the reports. In the Panel's view, the Program's response was thorough and resulted in a number of positive changes. However, concerns described on the governance and leadership side were not addressed in a manner that alleviated all of the underlying issues, many of which remain – and perhaps are intrinsic to a System-wide unit in the current CGIAR structure.

Among the 75 respondents to the Panel's survey (see Annex 5) who rated the ICT-KM governance, 65% considered it effective or highly effective. However, of the 10 respondents who had served on an ICT-KM steering or advisory body, the majority considered the governance arrangement to be ineffective or highly ineffective. Concerns expressed related to a perceived lack of clear agenda and transparent decision-making, and poor consultation. In addition, there was a widely expressed view that the Program does not have needed influence at the Center directors' and System management level.

In the Panel's view, the role of the CIO is quite large, and there are limitations to what one person can accomplish, particularly with limited authority to do so, as discussed below. The ICT-KM Program's governance arrangement has not provided the System-level authority needed to promote and support the CIO's efforts. The current arrangement lacks mechanisms to promote collaboration across Centers and disciplines, or the expertise to

provide Program-level oversight – as envisioned in the AG’s role. Administrative/financial, oversight is handled by the CIO (and those to whom she reports); technical oversight is handled by the CIO, supported periodically by consultants, with steering committees for some projects. This arrangement (discussed in sections 5.2 and 5.3) is uneven and may be a factor contributing to the uneven performance of the Program.

The CGIAR change process has potential to enable the ICT-KM Program to operate significantly more effectively at a System level. For this to happen, the Program’s governance and leadership should be incorporated within the Consortium CEO’s office.

Recommendation: The Panel recommends that the ICT-KM reporting and governance structure be aligned with CGIAR reform, such that the Program is housed in the office of the Consortium CEO, and the CIO reports to the CEO or his/her designate.

The CEO will decide how to structure his/her office and the supervisory/governance arrangement for System services like ICT-KM. In the Panel’s view, the arrangement should foster collaboration, transparency, and commitment to decisions – as well as programmatic excellence. As noted in section 6.1, the oversight arrangement should be clear, and those involved should have the relevant technical expertise and time to dedicate.

5.2 Program Leadership and Management

The CIO has led the ICT-KM Program since 2002, shortly before the Program’s strategy was developed. The Program’s structure includes a central CIO office, with decentralized projects led by staff employed by host Centers. The CIO travels about 20% of her time to visit the dispersed Program and coordinates or advises on initiatives. The decentralized approach enables the Program to support development of infrastructure and capacity within the Centers and regions, while maintaining a lean and agile CIO office function.

The CIO office includes a part-time Technical Coordinator, who supports IT-related activities, and two part-time, long-term consultants. The CIO was supported by an additional staff (Program Officer) during 2005 and part of 2008.

The scope of the CIO’s role is broad substantively, covering ICT, KM, and KS. It also spans a wide range of Program leadership and management functions:

- ***Program leadership*** – developing and overseeing Program strategy, convening decentralized processes, supporting communities of practice and 15 Centers, liaising externally with CGIAR partner organizations and donors, handling agreements, leading new initiatives (such as the AAA initiative), and serving as a System change agent
- ***Program management*** – managing resources and overseeing projects

The CIO has led the Program from its infancy, through its strategy formulation and two Investment Plans. A solid majority (79%) of survey respondents indicated that ICT-KM Program leadership is effective or highly effective. External/non-CGIAR respondents had a slightly more favorable view than internal/CGIAR respondents. Despite the large role and limited resources, the CIO is widely considered to have the vision, leadership skills, and initiative needed to handle a broad portfolio of responsibilities – and the Panel shares this view. In addition, despite the uncertainty regarding the Program’s future and the associated job insecurity, the CIO’s team is highly motivated and dedicated to the Program’s goals.

A recurring theme among survey respondents and interviews was that “the CIO has persisted when others would have quit.” She was brought in as a change agent without

“carrots and sticks” and achieves what she has through personal persuasion. She has provided strategic leadership under difficult circumstances. In addition, for external partners interviewed in Rome, the CIO is a strategic partner who provides a much needed single point of entry to the CGIAR.

The CIO faces many challenges. These include:

- The ICT-KM Program lacks “champions” and the commitment needed at the CGIAR leadership level in order to effect System-wide change
- The CIO controls a small budget (roughly \$300,000 per year), which limits her ability to influence
- While project funding has been multi-year, Program funding is renewed annually; the Program lacks devoted multi-year funding – and currently is in limbo regarding the future funding commitment
- The CIO works mainly in isolation, without the benefit of a team or colleagues working on shared or similar issues
- The CIO has broad substantive experience but is not an IT expert; the CIO role was initially conceived as IT lead and while that has long changed, the expectation and desire for leadership on that front remains
- While the CIO is responsible for project oversight, she lacks the expertise and time to fully carry out this role; she is supported by consultants, periodically, and by steering committees that play an oversight role in some projects

In order to address these challenges, and for the ICT-KM Program to provide real value to the CGIAR System, the following steps are needed.

- The Program should develop, through a consultative process, a new strategic or investment plan that is driven by business needs of the new CGIAR and clearly linked with System priorities – and has the buy-in of senior System leadership
- A commitment should be made, as is possible, to provide multi-year funding to support the plan
- The CGIAR’s annual performance measurement system should include ICT-KM relevant indicators, to provide incentives to Centers and programs to adopt and support related practices
- The CIO should be part of the new CEO office and, ideally, co-located with a corporate team of managers who provide System-wide services (such as gender and audit)
- The CIO’s role in project oversight should be administrative, unless clearly specified otherwise; substantive project oversight should be handled by subject matter experts or steering committees (as discussed further below)
- Assuming that the Program’s size is maintained or increased and its focus does not change, the CIO’s office should be expanded in order to support the range of functions it is responsible for; this could include adding a dedicated program manager and/or otherwise reconfiguring the role of the CIO

If the ICT-KM Program is to provide leadership and advice on the IT front, it would be beneficial to appoint a senior officer with the relevant skills. Such a development would shift the role of the current CIO to more of a Chief Knowledge Officer (CKO).

5.3 Project Management

The ICT-KM Program's structure includes decentralized projects led by staff based at Centers. This arrangement draws from talent and know-how in the Centers, helps ensure that projects are relevant to needs on-the-ground, invests resources at the Center level and builds capacity there – which lasts beyond the project's funding.

ICT-KM project managers are employed by their host Centers and report to supervisors there, as well as to the CIO on project matters. Almost all project managers have responsibilities within their Center, in addition to their ICT-KM responsibilities; their time is paid for in part or, in a few instances, in full by the ICT-KM Program. During the 2004 Investment Plan, the Program did not cover project managers' time, and consequently Center responsibilities generally took priority over ICT-KM ones; the 2006 Investment Plan improved that situation by budgeting in time for project management. Despite the current shared funding arrangement, there continues to be some tension between ICT-KM and Center demands on managers' time, although overall the arrangement is satisfactory. Looking forward, as future projects are planned it will be important to budget adequately for the time required to manage them.

The CIO is responsible for project oversight. Project managers report on an annual basis on technical progress against project plan and expenditures relative to budget; in between these reports, the CIO confers with them to review progress. The CIO has provided reporting guidelines to project managers, although they do not all follow these consistently and quality varies. It should be noted that this improved dramatically during the 2006 Investment Plan, when dedicated project management time was provided for.

According to the CIO, a key element of project quality control is community driven; communities provide input as to whether projects are meeting objectives and advise on adjustments designed to better meet user needs. This input can be informal or formal in the case of projects with Steering Committees. The 2006 Management and Governance Audit had proposed that for the larger, more risky projects, the Program appoint project steering committees to mitigate the risks of project delays and/or failure. Some but not all large projects subsequently have had such committees, which generally provide strategic direction and oversight, and advise the project manager.

Among survey respondents, more than 80% of those who rated project management, and project-level oversight and controls indicated that these are effective or highly effective. Overall, in the Panel's view, project management has been effective and controls on the whole are adequate, although a more systematic approach is recommended for quality control and monitoring and evaluation (as is discussed in section 4). Looking forward, the Program should clearly designate the quality control and oversight mechanism for each project; this could include involvement of some combination of steering committee, community of practice, expert advisor, external review, or other.

The Panel liked the concept of an Advisory Group, as laid out in the 2003 ICT-KM strategy, and felt that it could have played a valuable role in project oversight, among other areas. There were clearly reasons why the AG was not effective. The focused use of steering committees has been effective. In the absence of some other means for the Program to provide technical advice to and oversight of projects, project steering committees should

continue be used – particularly for all large or risky projects. It would be worthwhile to explore lessons learned from experience to determine how future steering committees should function and be structured. Steering committees potentially could span a group of similar projects, rather than be project specific.

5.4 Host Center Arrangements

The ICT-KM Program office is hosted by Bioversity in Rome, which provides office space, and facilities, financial and accounting services, human resource and administrative services. The CIO and Program office staff are employees of Bioversity. Each ICT-KM project has a host Center and arrangements follow CGIAR protocols. The 2006 ICT-KM Governance and Management Audit noted that the Program did not have a hosting agreement with IPGRI (Bioversity), and recommended that one should be signed. While neither Bioversity nor the Program have raised specific issues associated with the lack of a hosting agreement, one should be spelled out to limit the possibility of future misunderstandings relating to services provided and associated costs. Such an agreement should be developed in the context of the new CGIAR, the arrangements for the Consortium office – of which the ICT-KM Program is anticipated to be a part – and the timeframe for the change process.

5.5 Finances

From 2003 through 2009, ICT-KM Program expenditures are roughly \$9.3 million (projected). This has included direct Program expenditures (of \$4.4 million and \$2.8 million for IP04 and IP06 respectively) and indirect expenditures to support the CIO office (\$0.3 million annually). It should be noted that both Investment Plans included “Investment Plan Coordination” budgets that were fully funded and augmented the CIO office budget. Staffing and consulting has accounted for 40% of project expenditures, followed by “project activities” (25%), training/workshops (9%), hardware/software (8%), travel (8%), communications (2%), miscellaneous (1%), and overhead (8%). Half of the annual (\$0.3 million) funding for the CIO’s office is paid by each CGIAR Center, on a fee-for-service basis. The CIO has helped to leverage additional funding for ICT-KM initiatives from donors and partners that include the Bill and Melinda Gates Foundation, FAO and GFAR; these funds generally have flowed directly to the participating CGIAR Centers.

ICT-KM funds are managed in a decentralized manner by the various project managers with oversight from their host Centers and the CIO. Each Center is accountable for compliance with CGIAR financial guidelines for ICT-KM related funds, and submits annual financial reports to the CIO. Following review of the financials and project technical reports, the CIO submits these to the CGIAR Secretariat for review and funding disbursement.

A 2006 Financial Review of the ICT-KM 2004 Investment Plan concluded that “No significant financial issues were identified and ... all the 14 projects under the CGIAR ICT-KM 2004 Investment Plan were implemented successfully across the CGIAR Centers.” The report provided eight recommendations that were intended to be beneficial to the continuation of the Program under the 2006 Investment Plan. These recommendations were followed up on in a systematic manner, although the various Center finance departments do not necessarily comply (such as regarding the reporting format).

While the financial reports are not always timely and do not always follow the Program’s standard format, the Panel was not made aware of problems relating to the financial management of the Program or projects.

The CGIAR's investment of roughly \$9.3 million in the ICT-KM Program, from 2003 through 2009 (projected), does not capture the large investment of staff time and related indirect costs associated with implementation of the various projects and Program initiatives. These costs, however, are dwarfed by the larger investment by the 15 Centers in ICT, KM, and KS staff, infrastructure, equipment, and initiatives – which are not tracked at the System level. As an indicator of the magnitude of these costs, a 2003 CGIAR study of the CGIAR Gender Program indicated that as of April 2003, 6% of all CGIAR staff (7,651) were in ICT Services or Information Specialist positions (which extends somewhat beyond the ICT-KM scope)². While section 4 of this report assesses the value of the \$9.3 million investment, it does not address the broader context of the CG-wide investment in Program plus Center-level ICT-KM initiatives, and the overall effectiveness and efficiency of the collective investment, and opportunities therein.

² Staffing in the CGIAR, 2003, Discussion Draft, Working Paper 40, Gayathri Jayasinghe and Bob Moore, September 2003, Gender and Diversity Program. ICT Services covered staff who develop information and communication technology (ICT) facilities and provide technical support for staff using those facilities; Information Specialists were defined as those who undertake specialized information search, creation, retrieval, analysis, and presentation and delivery activities. Their work extends across a range of professional information categories including information management, knowledge management, journalism, librarianship, Web development and graphic arts.

6 Looking Forward

The CGIAR is in a state of transition. The reform process is designed to foster a more unified and open CGIAR, where strengthened collaboration and more dynamic partnerships enhance development impact. In this new CGIAR, the *potential contribution* of the ICT-KM Program in the coming years is quite positive, according to the predominant view of the Panel's survey respondents (83%) – and in the opinion of the Panel. The Program can play a critical role in supporting the collaboration, improved efficiencies, and partnerships that underpin the future CGIAR.

In order to approach its potential, the Program needs to be repositioned organizationally within the CGIAR and, programmatically, its strategy and priorities need to be renewed and sharpened. This section explores considerations for reorienting the ICT-KM Program to align with and serve as a change agent in the new CGIAR.

6.1 ICT-KM Organization

The Panel considered various organizational options to strengthen the effectiveness of the ICT-KM Program in the future CGIAR. The discussion that follows Centers around five broad questions relating to the Program's governance, service delivery, and the role of the CIO, building on the discussion in section 5.

Maintain current governance/host Center arrangement?

The current arrangement places the Program “on the ground” within a host Center and links the CIO to the System leadership through line reporting to the host DG and CGIAR Director, as well as through periodic updates to the Alliance Deputy Executive. In this arrangement, the CIO office is isolated from broader System-level initiatives, the Program lacks the authority and influence to effect System-level change, and decision making has been perceived as lacking transparency and needed collaboration. In the Panel's view, the arrangement should be modified, as is discussed in Section 5, in alignment with the broader CGIAR change process.

Realign ICT-KM in the Consortium CEO's office?

The Consortium will unite the Centers under one legal entity, provide a single entry point for CGIAR research products, and provide shared services to streamline Center operations and reduce costs. The ICT-KM Program can support the Consortium's role of providing access to CGIAR research products, and streamlining Centers' ICT/KM operations. The Consortium could provide the Program with the authority and influence it needs, in order to fulfill its role. The new organization also could create valuable synergies between ICT-KM and other System- and change-oriented units by co-locating them as a corporate team. While the model is expected to provide for clear roles, decision-making processes, and accountability, the details and how these would affect the ICT-KM Program are still uncertain. Despite uncertainty about the mechanics, in the Panel's view the ICT-KM Program should fit well in the new Consortium arrangement; the new model is designed to reduce the challenges that the ICT-KM Program has faced and to capitalize on the value the Program can provide.

The CEO will decide how to structure his/her office, and the supervisory/governance arrangement for System services like ICT-KM. In the Panel's view, these services should move towards comparable reporting structures, with variations if merited to support specific

Program circumstances or needs. Based on lessons from past experience, the ICT-KM Program's governance arrangement ideally should:

- Be agile to allow for innovation and to fit a relatively small Program size
- Have clear decision making and accountability – that links the Program to the System leadership and ideally includes an influential Program “champion” who can help create buy-in and support for the Program
- Distinguish between advisory and decision-making roles (which were blurred in the case of the former Advisory Group)
- Ensure that the oversight arrangement is clear, and that those involved have the relevant technical expertise and budgeted time – to help foster Program excellence
- Include a mechanism and/or process to foster collaboration and build buy-in and commitment to the Program's strategy and priorities (across research and non-research disciplines and regions/Centers)
- Incorporate selective ICT-KM indicators into the CGIAR Performance Measurement System, to help motivate progress towards agreed-upon benchmarks

Recommendation: The Panel recommends that the role of the CIO and the office's staffing be reconfigured to ensure that the Program has needed capacity to accomplish the goals set out in the upcoming strategy and investment plan.

Recommendation: The Panel recommends that the CGIAR incorporate selective ICT-KM indicators into the Performance Measurement System, to help motivate progress towards agreed-upon ICT-KM benchmarks.

Outsource ICT-KM?

The private sector leads in ICT/KM innovation and expertise and, some have suggested, the whole Program could be contracted to the private sector. However, the steep learning curve for “outsiders” to understand the CGIAR and its needs, the high cost of contractors' time, and the small, decentralized approach of the Program make this option unattractive at this time. With outsourcing, the System would not gain the valuable internal capacity that is built from each project investment. As future Program plans are developed, there may be Program components or projects that could be delivered best through an outsourced arrangement – and options should continue to be explored. Likewise, external experts could be contracted to serve in a governance, Program oversight, advisory, or project management capacity.

Reorient decentralized approach to ICT-KM service delivery?

The Program's current approach includes a central CIO office and projects based at Centers, and this arrangement has served the Program well overall. The Program provides limited centralized advisory and technical services, which include what the CIO and her coordinator can offer; project teams also provide short-term technical/advisory support, within the project context. Looking forward, there may be opportunities to streamline Center-based IT, KM, and KS functions into global or regional hubs of expertise (as ILRI and ICRAF have successfully done with a shared head of IT). Consolidating services may be economical and also may provide the scale needed to support pro-active strategic leadership on, for example, the IT front. In addition to consolidating services, depending on the funding and priorities in the upcoming plan, resources could be devoted to appoint one

or more officers to serve as global or regional leads on a specific topic (IT, KM, KS); alternatively such services could be provided through the existing communities of practice, by budgeting for time of selected participants to serve in a regional or global capacity.

Refocus the role of the CIO?

The role of the CIO is large for one person and, as noted in section 5, the CIO's office should be expanded in order to support the range of functions for which it is responsible, and the role of the CIO should be reconfigured. That section suggested narrowing the CIO's role in project management and oversight, enabling the CIO to focus on System-level issues. Depending on the Program's new direction and priorities, the CIO's role may become more internally/CGIAR focused, more externally/partnership oriented, or perhaps it will stay unchanged. This balance will influence the future role and priorities of the CIO. The same applies to the role of the Program in marketing and communications, which in the Panel's view should be targeted to inform users and practitioners. As the System moves into the Consortium model, there may be new opportunities for shared ICT-KM agreements, policy guidelines, infrastructure, and funding, and the CIO would be well placed to serve as a focal point in these areas. Depending on the Program's and Centers' priorities on the ICT-KM front, it may be beneficial to appoint a senior officer to provide IT leadership and technical advice. Such a development would shift the role of the current CIO to more of a Chief Knowledge Officer (CKO). The CKO would be responsible for the knowledge management part of the ICT-KM Program, and the CIO would oversee the ICT and other System technology-related components. Together, they would focus on the people, process, and technology components involved in the ICT-KM Program.

6.2 ICT-KM Programmatic Direction

The Program's results since 2003 have been mixed (see Table 4). The IP04 project portfolio resulted in marginal successes. However, the IP06 projects were selected to focus on the potential strengths of some of the earlier projects and have produced largely favorable results. The Program has faced many obstacles. The CGIAR reform process has potential to change the way the CGIAR functions, for the better. These changes could create a highly conducive environment for the ICT-KM Program to do what was initially envisioned for it – and the Program can support the change process. CGIAR reform is about changing the way CG does business. The CIO can lead in developing new ways to share services, gain economies, etc. across IT, KM, and KS (knowledge sharing). The CGIAR Consortium can provide the needed legal framework to foster internal coordination.

At the same time, the ICT-KM Program should continue to leverage external partnerships to benefit the System and Centers. Some of these partnerships have created favorable impacts upon the knowledge sharing CGIAR community and beyond, as demonstrated in the FAO-hosted ShareFair 09. This fits with the move towards a more open, partnership-based CGIAR. Currently, the ICT-KM Program Lead mentions that she spends about 20% of her time with external partners. This seems like a reasonable percentage of time for this activity. Continuing to reach out to external partners, such as FAO, IFAD, and others, will help the ICT-KM Program extend its visibility and effectiveness to the agricultural community at large. Certainly, the knowledge management work that FAO, IFAD, USAID, WHO, World Bank has performed over the years could serve as good benchmarks for the CGIAR ICT-KM Program to emulate. Specifically, the use of learning and knowledge sharing proficiencies as part of everyone's annual performance review (World Bank, IFAD), online community and thematic groups (World Bank, USAID, WHO), the use of storytelling and organizational narratives (World Bank, WHO), Knowledge Sharing Fairs/Forums (FAO, IFAD, World Bank),

and an organizational infrastructure and senior management support for knowledge management (IFAD, FAO, World Bank) are examples of knowledge management practices that have been successful in related organizations.

The CGIAR needs to maintain its commitment to ICT-KM so the Program will not lose momentum or valuable staff. As the IPO6 projects are ending, this transition period brings challenging times for the ICT-KM Program. ICT-KM Program funding has largely ended and key staff and consultants to the ICT-KM Program are in jeopardy due to the short contracts and lack of foreseeable funding. This is an important strategic issue in order for the ICT-KM Program to survive. Looking forward, the ICT-KM Program still has important ongoing relevance to the CGIAR vision and mission. In fact, it really should be an integrative mechanism across all CGIAR Centers, and should ultimately be seamlessly woven within the fabric of the CGIAR.

In terms of technologies being applied in the ICT-KM projects, the ICT-KM Program recently wrote a report titled “Strategic Technologies for the CGIAR in 2009” (September 22, 2008). The top ten technologies/activities for consideration for the CGIAR, after combining the scores of the CGIAR CIO and the CGIAR IT managers, were:

1. System-wide Software and Service Acquisition
2. Email Archive Appliance
3. Virtualization 2.0
4. Storage Infrastructure
5. Chargeback
6. Training Programs
7. Hosted Email
8. Social Software
9. SaaS (Software as a Service)
10. Periodic Security Scans

Certainly, some of these technologies/activities could relate to the ICT-KM Program, most notably System-wide Software and Service Acquisition, Social Software/Social Media, and Training Programs. In the past, the ICT-KM Program has experimented with the latest technologies like content management systems/portals (PlumTree, Aqualogic), Google Apps for collaboration, Wordpress.com for Blogs, and others. CGNet.com is being used for Email Active Directories, infrastructure, hosting, and managed network needs. Skype has been used extensively for project team video/audio conferencing, but sometimes it isn't robust enough in either developing countries with limited bandwidth or if the load on the Skype system is high. But generally speaking, the ICT-KM Program has the foresight to investigate new technologies to see what may be the most effective and cost-efficient way of enabling knowledge sharing. The ICT-KM Program might also want to apply social network analysis (SNA) to map knowledge flows and knowledge gaps in the various stakeholder communities to determine the greatest needs for knowledge management activities and to also measure the reach and effectiveness of the knowledge sharing projects within the ICT-KM Program.

Other considerations for the future that the ICT-KM Program should keep in mind are:

- Further refine the ICT-KM Program strategy in order to capitalize on both the “collection” and “connection” (both people-to-people and infrastructure connectivity) parts of the strategy.

- Develop specific CGIAR learning and knowledge sharing proficiencies, similar to the World Bank, as part of everyone’s annual performance review in order to further recognize and reward people for promoting knowledge sharing efforts.
- Establish specific outcome metrics for each ICT-KM project which could be measured quantitatively, such as in economic savings.
- Further develop the CGIAR “who knows what” part of the CGXchange, even though this may be a separate spin-off from the CGXchange.
- The ICT-KM Program should work synergistically with the Institutional Learning and Change (inter-Center) initiative, as each could contribute to the other.
- The ICT-KM Program should continue to find ways to share information and knowledge with the NARS (National Agricultural Research Systems).
- The ICT-KM Program should further use project management software to track and coordinate projects.
- The ICT-KM Program should further communicate and publicize its economic savings and tangible benefits within the CGIAR and beyond.
- Encourage the CGIAR community to be “reflective practitioners” through building a continuous learning culture via ICT-KM initiatives.
- Provide a visual ICT-KM Project Dashboard (including project progress, impacts/outcomes, monies used to date, etc.).
- Require project/technical update reports from the ICT-KM project coordinators every six months versus annually.
- Continue to articulate the ICT-KM Program strategy in various venues (e.g., Annual Research Conferences at Centers) and communications media.

In synthesis, a focus on engagement and quality will be highly important, looking forward.

Recommendation: The Panel recommends that the ICT-KM Program actively engage the research community in the Program and its activities, in order to achieve the greatest value for the System.

Recommendation: The Panel recommends that the Program institutionalize a more formal, systematic approach to quality control, and establish quantitative outcome metrics for each ICT-KM project.

In closing, the ICT-KM Program has made great strides and has the potential to contribute much more to the CGIAR System and its research objectives. The Program should be an integral part of the new CGIAR. It should no longer be a fee-for-service operation. In the Panel’s view, the CGIAR should maintain its commitment to ICT-KM during this time of transition so that the Program will not lose momentum or valuable staff, and can build on past experience to better serve the future CGIAR.

Recommendation: The Panel recommends that the CGIAR invest sufficient, sustained resources in the ICT-KM Program, so that the Program can maintain momentum and be an integral part of the new CGIAR.

Annex 1 – Review Panel

Jay Liebowitz, Chair

Dr. Jay Liebowitz is the Orkand Endowed Chair of Management and Technology in the Graduate School of Management & Technology at the University of Maryland University College (UMUC). He previously served as a Professor in the Carey Business School at Johns Hopkins University. He was recently ranked one of the top 10 knowledge management researchers/practitioners out of 11,000 worldwide. Prior to joining Hopkins, Dr. Liebowitz was the first Knowledge Management Officer at NASA Goddard Space Flight Center. Before NASA, Dr. Liebowitz was the Robert W. Deutsch Distinguished Professor of Information Systems at the University of Maryland-Baltimore County, Professor of Management Science at George Washington University, and Chair of Artificial Intelligence at the U.S. Army War College. Dr. Liebowitz is the Founder and Editor-in-Chief of Expert Systems With Applications: An International Journal (published by Elsevier), which had about 1,600 paper downloads per day worldwide last year. He is a Fulbright Scholar, IEEE-USA Federal Communications Commission Executive Fellow, and Computer Educator of the Year (International Association for Computer Information Systems). He has published over 40 books and a myriad of journal articles on knowledge management, intelligent systems, and IT management. His most recent books are Knowledge Retention: Strategies and Solutions (Taylor & Francis, 2009) and Knowledge Management in Public Health (Taylor & Francis, 2010). He has lectured and consulted worldwide. He can be reached at jliewowitz@umuc.edu

Liz Field

Liz Field is an organizational consultant, based in Portland, Oregon, who was the governance and management lead on the ICT-KM external review team. Her areas of expertise include organizational assessment and development, leadership transition, strategic planning, and process facilitation. Her clients are generally international agencies, foundations, and nonprofit organizations. From 1989 to 1999, Liz worked at the World Bank, first at the CGIAR Secretariat, where she participated in several CGIAR external reviews and related governance/management initiatives; and then with the World Bank's Corporate [the Board's] Secretariat, focusing on Bank strategy and policy issues. Prior to joining the World Bank, Liz worked at the International Institute for Tropical Agriculture (IITA), as a Management Systems Analyst. She has a BA from Amherst College and MBA from Yale University. Liz is currently a member of the board of the Wallace Medical Concern. She may be reached at 503-804-9565 or field.liz@gmail.com.

Annex 2 – Terms of Reference for the Review

EXTERNAL REVIEW OF THE CGIAR ICT-KM PROGRAM TERMS OF REFERENCE

INTRODUCTION

The Consultative Group on International Agricultural Research (see www.cgiar.org) is a consortium which supports the work of 15 international agricultural research Centers located around the world. More than 8,500 CGIAR scientists and staff are working in over 100 countries, addressing every critical component of the agricultural sector including - agroforestry, biodiversity, food, forage and tree crops, pro-environment farming techniques, fisheries, forestry, livestock, food policies and agricultural research services.

The CGIAR's mission is to contribute to food security and poverty eradication in developing countries through research, partnerships, capacity building, and policy support, promoting sustainable agricultural development based on the environmentally sound management of natural resources. Each Center is an autonomous entity with its own governance, and is the operational arm of the CGIAR system. However, they receive support from the CGIAR System Office, a virtual structure of shared services and coordination units which are hosted in various Centers but provide services to all the Centers and to the CGIAR System as a whole.

One of these programs is the ICT-KM Program of the CGIAR. This Program promotes and supports the use of information and communications technology (ICT) and knowledge management (KM) to improve the effectiveness of the CGIAR System's work on behalf of the poor in developing countries.

The Program was created in 2002-2003 as one of several initiatives intended to help the CGIAR evolve into "one system": an internationally distributed, efficiently integrated, knowledge sharing system that operates effectively.

The Program's first goal is to help transform how the CGIAR System works in order to preserve, produce, and improve access to the agricultural global public goods needed by the poor in developing countries in the most effective and efficient manner.

Its second goal is to help establish the CGIAR System as a leading knowledge broker, bringing together all the players in an open, inclusive community for global public goods research, with development as the ultimate goal. The Program harnesses information technologies and knowledge management practices, and introduces modifications and new approaches aimed at changing long-established organizational practices and related behaviors.

Program Structure and Delivery

The ICT-KM Program is managed by the CGIAR Chief Information Officer (CIO) whose office is one of the CGIAR System Office units and is hosted by one of the CGIAR Centers, Bioversity International, in Rome, Italy. The CIO reports to the CGIAR Director and to the Director General of the host Center. During its first three years, the Program was guided by a three-year ICT-KM Strategy, which was developed through broad consultations with the assistance of an Advisory Group representing most of the CGIAR's 15 Centers and

functional levels.

Now in its second phase, the Program continues to be delivered primarily through a series of projects managed by specific Centers. These investments, which are coordinated by the CIO office, are complemented by other program activities, which include the nurturing of communities and connections, negotiating economies of scale across Centers, and ongoing evaluation and learning.

Investment Plans

In 2004, the ICT-KM Program kicked off with three thrusts:

1. ICT for Tomorrow's Science
2. Content for Development (C4D)
3. A CGIAR without Boundaries

The 2004 investment plan funded through the World Bank, supported 14 inter-related projects that would improve connectivity in the CGIAR and enable staff located in even the remotest of regions to access a wide range of online tools and services. At the same time, staff was also given the necessary know-how that would equip them to collaborate and share information in a way that would be beneficial to all participants. The 2004 Investment Plan (IP04) had a total budget of \$4.5 million. As of early 2009, all but four of those projects have achieved completion. Actual IP04 expenditure to date are \$4.6 million, funded entirely from the World Bank's contribution to the CGIAR.

The 2006 Investment Plan (IP06), which covers Phase II of the Program and has a total budget of \$3.1 million, focuses on providing, with further World Bank funding, follow-on support for several critical, System-wide activities that were started under the 2004 Investment Plan. IP06 was premised on the idea that only by consolidating the gains of these activities can all CGIAR staff and partners benefit from their potential returns. The main scope of the 2006 Investment Plan is centered on two relatively large projects: CGXchange and Improving CGIAR Effectiveness through Knowledge Sharing (KS).

In 2006, the CIO commissioned reviews of: the monitoring and evaluation of the Program, undertaken by an external M&E consultant; the management of the program, undertaken by the CGIAR Internal Auditing Unit; and a financial review carried out by a staff of the CGIAR Secretariat. The results of these reviews were incorporated in the planning for Phase II of the Program.

Links to details of the Program, its Investment Plans and results of the 2006 reviews can be found at <http://ictkm.cgiar.org/index.asp>.

The CGIAR Secretariat, through which the World Bank funding for the Program has been channeled, and which has an oversight responsibility for the use of these funds, is now commissioning an external review of the Program, to be conducted by a small external panel under a consultancy contract with the Secretariat. Similar reviews have been undertaken of the other major programs funded by the Bank's CGIAR contribution.

CGIAR Organizational Change Process

The CGIAR has launched in December 2008 a far-reaching organizational change process which will likely result in a new set of organizational arrangements, including those for the ICT-KM Program in future. These new arrangements will be defined during 2009 and implemented from late 2009 onwards. The results of this external review of the ICT-KM

Program will provide timely assistance to the Program management and stakeholders as it moves under a new governance structure.

EXTERNAL REVIEW OBJECTIVES

The broad objectives of the review are to:

- provide the ICT-KM Program's stakeholders (including the World Bank, CGIAR Secretariat, and the CGIAR Centers) with an independent and rigorous assessment of the relevance, achievements, effectiveness and efficiency of the Program to date;
- provide recommendations for change where opportunities to increase the relevance, achievements, effectiveness and efficiency of the Program are identified.
- provide recommendations on the future directions of the program in the context of the global challenges, the on-going CGIAR reform efforts and the anticipated new Consortium of the Centers.

Specifically, the external review panel is charged with:

(1) assessing:

- (a) clarity and continuing relevance of the vision, mission, strategy and priorities of the Program;
- (b) accomplishments and impact (outcomes) of the Program to date, and returns on investment as a result;
- (c) the effectiveness and efficiency to date of the overall governance and management of the Program;

(2) facilitating discussion of the results of the review with the CIO Office, Program project leaders, the CGIAR Secretariat, the Alliance Office, CGIAR Centers and other CGIAR System Offices which interact with the Program; and

(3) formulating recommendations which could be considered for the ICT-KM Program as it moves under new governance arrangements under the recently launched CGIAR Reform Process.

EXTERNAL REVIEW SCOPE

Using the methodology proposed by the consultant and agreed by the CGIAR Secretariat, the external review panel will cover the following topics:

- Program definition, scoping, priority-setting, project elements, and objective-setting and output/output/impact structure at Program and project level
- Program management structure, internal and external communications and coordination, reporting and accountabilities
- Program and project human resources allocations and organizational structure and financial resource allocations
- Relationships with partners engaged to implement the Program /project activities
- Quality control and assurance mechanisms
- Program monitoring and evaluation

- Program achievements and outcomes
- Compliance with financial and non-financial requirements in funding contracts

Information and Timing

It is expected that much of the information and other inputs for the review will be available in the CIO's office, the Program website, the implementing Centers, and the CGIAR Secretariat, with targeted site visits, as necessary. The review will formally kick off with an initial briefing of the panel by the CGIAR Director and Director General of the program host Center. It is expected to take up to a total of approximately of 30 consultant days (excluding travel time), and be completed by July 31, 2009.

DELIVERABLES FROM THE PANEL

Deliverable	Target Date
1st draft report and discussion of findings with CGIAR Secretariat	June 30, 2009
Final report of the review	July 31, 2009

PANEL PROFILE: Required Expertise in

- Knowledge Management/Content
- Program Governance and Management

Annex 3 – List of People Interviewed

In-Person Interviews:

- CGIAR Secretariat briefing – Ren Wang, Shey Tata, Manuel Lantin, Iftikhar Mostafa, Danielle Lucca, Laura Ivers, Selcuk Ozgediz, Maria Iskandarani
- Reza Firuzabadi, Senior Information Officer, World Bank
- Luz Marina Alvare, Head, Library and Knowledge Management, IFPRI
- Stanley Wood, Senior Research Fellow, IFPRI
- Klaus Von Grebmer, Communication Division Director, IFPRI
- Nancy Walczak, Head, Computer Services, IFPRI
- Enrica Porcari, Chief Information Officer, ICT-KM Program
- Sirkka Immonen, Senior Officer, Science Council Secretariat
- Anton Mangstl, Director, Knowledge Exchange Division, FAO
- Stephen Rudgard, Chief Outreach and Capacity Building, FAO
- Stephen Katz, Chief, World Agriculture Information Center, FAO
- James Garber, Consultant, FAO
- Jeff Tschirley, Chief, Rehabilitation and Humanitarian Policies Unit, FAO
- Mark Holderness, Executive Secretary, Global Forum of Agriculture Research
- Fiona Chandler, Scientific Liaison Officer, Alliance Office
- Francesco Finocchio, Director, Human Resources, Bioversity
- Jamie Watts, Head, Institutional Learning and Change, Bioversity
- Antonella Pastore, Manager, CGXchange and CGMap, ICT-KM
- Michael Marus, Systems Architect, EasyMTP and CGMap, ICT-KM
- Tania Jordan, Technical Coordinator, ICT-KM
- Pierre-Justin Kouka, Special Assistant to the Vice President, IFAD
- Roxanna Samii, Knowledge Management Officer, IFAD
- Vicki Wilde, Director, Gender and Diversity Program, CGIAR

Telephone Interviews:

- Emile Frison, Director General, Bioversity
- Simone Staiger-Rivas, Institutional Knowledge Sharing Project Leader, CIAT
- Charles Crissman, Deputy Director General of Research, CIP
- Anthony Collins, Enterprise Security Americas Project Leader, CIP
- John Fitzsimon, Internal Auditing Unit Director, CGIAR
- Alma Redalles-Dolat, Auditor-Enterprise Security (was scheduled but had connectivity problems—had email correspondence to answer questions)
- Gerry O'Donoghue, Director, Corporate Services, Bioversity
- Enrica Porcari, Chief Information Officer, ICT-KM Program
- Kwesi Atta-Krah, Deputy Director General of Research, Bioversity
- Nadia Manning, Knowledge Sharing in Research Project Leader, IWMI,
- Meredith Giordano, Principal Researcher, IWMI
- Steve Hall, Director General, WorldFish

Annex 4 – List of Documents Reviewed

ICT-KM Annual Reports

- [2008 - Rising to the Challenge](#)
- [2008 - ICT-KM 2006 Investment Plan - Planning for the Future Activity Report 2008-2009](#)
- [2007 - Working to make a difference](#)
- [2006 - Learning, Adjusting, Moving Forward: Executive Summary](#)
- [2006 - Learning, Adjusting, Moving Forward](#)
- [2005 - Towards a CGIAR without Boundaries](#)
- [2004 - Towards a CGIAR without Boundaries](#)

ICT-KM Internally-Commissioned External Review Reports

- [ICT-KM Program M&E Final Project Report 2004-2006](#)
- [2006 M&E Report on the ICT-KM Program](#)
- [2006 Report on the Audit of the Management and Governance of the ICT-KM Program](#)
- [2006 ICT-KM Program - Financial Review - Final](#)
- [2006 Monitoring and Evaluation for Learning: The ICT-KM Program Experience](#)
- [CGIAR ICT-KM Program 2004 Investment Plan: Report of the External Review Panel](#)

ICT-KM Strategy Documents

- [Global Public Goods: From Data and Information to Food](#)
- [Investment Plan 2006 - Executive Summary - The Way Ahead](#)
- [ICT-KM 2006 Investment Plan - Summary \(Consolidating Gains, Planning the Future\)](#)
- [ICT-KM Program 2006 Investment Plan Final Coordination Activity Report 2008-2009](#)
- [ICT-KM Investment Plan 2004](#)
- [ICT-KM Strategic Plan 2003](#)

Latest Project Reports - 2006 Investment Plan

- [CGXchange Final Technical Report](#)
- [EasyMTP-CGMAP Final Report](#)
- [Institutional Knowledge Sharing \(IKS\) Project](#)
- [Knowledge Sharing in Research \(KSiR\) Project](#)
- [Online Learning Resources Project](#)
- [Virtual Library Services \(VLS\)](#)
- [Second Level Connectivity \(SLC\)](#)
- [Enterprise Security \(ES\) Americas - Regional Thrust - Final Report](#)

Latest Project Reports - 2004 Investment Plan

- [E-Publishing \(E-Pub\)](#)
- [Enterprise Security and Business Continuity \(ESBC\)](#)
- [Second Level Connectivity \(SLC\)](#)
- [Web Content and Usage Analysis \(WC&UA\)](#)
- [Advanced Research Network \(ARN\)](#)
- [Virtual Library Services \(VLS\)](#)

- Consortium for Spatial Information (CSI)
- Virtual Academy for the Semi-Arid Tropics (VASAT)
- Desktop Video Conferencing (DVC)
- Online Learning Resources (OLR)
- Virtual Resources Center Infrastructure (VRCI)
- Scientific Data Standards and Exchange: Capacity Development

Other Documentation

- Review of the CGIAR System Office, Doug Daniels, August 2006
- CGIAR System Office Integrated Operating Plans, 2003, 2004, 2005, 2006, 2007
- Staffing in the CGIAR, 2003, Discussion Draft, Working Paper 40, Gayathri Jayasinghe and Bob Moore, September 2003, Gender and Diversity Program
- Knowledge Sharing and Innovation in the CGIAR – ICT-KM Program Interventions
- The CGIAR's ICT-KM Program Background Information for the External Evaluation Panel
- CGIAR ICT-KM E-Newsletters
- Recommendations and Lessons from Knowledge Sharing Efforts in the CGIAR (June 16, 2009)
- FAO Purpose Checklist for Online Group/Network/Community
- Information Management in the CGIAR: The Role of the CGIAR ICT-KM Initiative (Ajit Maru—personal perspective)
- Email correspondence from individuals interviews (Annex 3)
- IRRI Enterprise Security and Business Continuity Closure Report
- Knowledge Management for Development Journal (Sept. 2005: special issue)
- IFAD Knowledge Strategy Document
- CGIAR's Agricultural Research Matters: Achieving the Millennium Development Goals
- Knowledge and Innovation for Agricultural Development (IFPRI, March 2009)
- CGIAR Annual Reports
- Knowledge Sharing Solutions for a CGIAR Without Boundaries (ed. By N. Russell and S. Staiger-Rivas)
- ILAC Knowledge Sharing Activities
- Alliance Consultation on Consortium Design and Creation (Prepared for ExCo 16; 2009)
- Alliance Consultation on Lessons from the Mega Programme "Mock Ups" (Prepared for ExCo 16; 2009)
- ICT-KM Review-Questions/Documentation (Responses by Enrica Porcari, July 20, 2009)
- ICT-KM consolidated financial report and project budget reports

Annex 5 – Survey Method and Results

The ICT-KM external review Panel conducted a web-based survey to gather perspectives from within and outside of the CGIAR regarding the Program's past performance and future direction. The Panel Chair sent the survey link by email to 258 individuals in early June 2009, and 121 (47%) responded by early July. The survey's distribution list was developed with input from the ICT-KM CIO and the CGIAR Secretariat, and included: all CGIAR DGs, DDGs, ICT-KM communities of practice, project managers, advisors, consultants, and CGIAR System Office heads, as well as a sample of scientists and other program participants within the CGIAR and partner organizations – **who are familiar with the Program**. The Panel recognized that a broader distribution of the survey to more CGIAR scientists, partners and others might have produced somewhat different results, as the proportion of survey participants that are not familiar with the Program increased.

The survey results are presented in the pages that follow. These include a tabulation of the responses to each question, followed by a sample of the many written comments in response to each question; the unabridged 343 written comments (total across questions) filled 20 pages. As the survey was confidential, results are presented in aggregate and comments that could compromise the anonymity of the respondent are not included.

Highlights, based on responses to the multiple-choice questions, include the following; note that percentages refer to respondents who expressed an opinion on a particular item (and do not include "don't know" or no response):

- Overall the Program has made good progress towards achieving its mission
- A majority of respondents agreed or strongly agreed that the Program has
 - Obtained economic savings within the CGIAR (81%)
 - Improved access, sharing, and use of information and knowledge (79%)
 - Strengthened a collaborative CGIAR work culture (73%)
 - Made the CGIAR an international model and leader in the application of information and communication technologies, and knowledge sharing (57%)
- Respondents who self-identified as CGIAR researchers and research management (27) had a favorable overall view of the Program but less so than non-researchers (67)
- Respondents who self-identified as non-CGIAR (16), had a more favorable view of the Program than CGIAR respondents (94), although they knew less about the details
- The strategy and investment plans are relevant (78%) and planning/prioritization processes effective (71%), although concerns were noted regarding the transparency of the processes and the lack of consultation – particularly of users
- Program leadership is considered effective or highly effective (79%) with relatively few "don't knows" and many "highly effective" (32) responses
- The Program's project-level management and oversight/controls are effective (84% and 81% respectively), although researchers were more critical regarding the latter
- Several of the 21 projects from the 2004 and 2006 investment plans were considered effective or highly effective by a solid majority of respondents, although the median number of responses was just over half – *most projects are not well known*
- Top "rated" projects included the Consortium of Spatial Information, CGMap, Virtual Library, nurturing communities of practice, and the Virtual Academy for the Semi-Arid Tropics (VASAT – which only 32 respondents rated)
- Video-conferencing and e-publishing were considered least effective
- The *potential contribution* of the Program in the coming years is quite positive (83%)

The survey results and perspectives that respondents shared helped to shape the Panel's understanding of the ICT-KM Program, and the Panel's assessment.

ICT-KM External Review Survey Results

A. ICT-KM - Assessment and Feedback

1. The ICT-KM Program has made progress towards achieving each aspect of its mission:

Answer Options	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know	Response Count	# Who Rated	% +
a) Improving access, sharing, and use of information and knowledge	2	21	50	38	8	119	111	79%
b) Strengthening a collaborative CGIAR work culture	6	22	46	29	15	118	103	73%
c) Obtaining economic savings within the CGIAR	5	10	40	23	40	118	78	81%
d) Making the CGIAR an international model and leader in the application of information and communication technologies, and knowledge sharing	12	29	36	19	20	116	96	57%
e) Comments						38		
						answered question	120	
						skipped question	1	

2. Please rate the following aspects of the ICT-KM Program.

Answer Options	Highly Ineffective	Ineffective	Effective	Highly Effective	Don't Know	Response Count	# Who Rated	% +
a) Relevance of Program strategy and investments	1	20	58	16	18	113	95	78%
b) Program planning and prioritization <i>processes</i>	4	18	50	5	37	114	77	71%
c) Governance of the Program	9	17	39	10	36	111	75	65%
d) ICT-KM Program leadership	4	18	49	32	12	115	103	79%
e) Project-level oversight and controls	1	14	55	8	36	114	78	81%
f) Management of projects	2	11	55	13	31	112	81	84%
g) <i>Potential contribution</i> to the CGIAR in coming years	7	10	37	44	16	114	98	83%
h) Comments						36		
						answered question	116	
						skipped question	5	

Please note: "% +" refers to the percentage of respondents who rated the item favorably (agree or strongly agree for question 1; effective or highly effective for question 2). "# Who Rated" refers to the number who responded with anything but "Don't Know."

3. How effective has the ICT-KM Program been in the following areas of investment? Please respond regarding those with which you are familiar - 4 Program thrusts and/or specific projects.

Answer Options	Highly Ineffective	Ineffective	Effective	Highly Effective	Don't Know	Response Count	# Who Rated	% +
1. Connectivity (science, tools, technology infrastructure)	2	13	29	9	26	79	53	72%
a) Global advanced research networks	5	18	21	7	42	93	51	55%
b) Second level connectivity	3	15	30	7	42	97	55	67%
c) Enterprise security and business continuity	3	15	24	3	50	95	45	60%
d) Videoconferencing for enhanced collaboration	6	30	23	4	35	98	63	43%
e) Consortium for Spatial Information (CSI)	2	7	26	24	41	100	59	85%
f) Utilization of intelligent information systems for plant protection	5	8	12	5	63	93	30	57%
2. Content (data and information management/access)	2	7	24	4	17	54	37	76%
a) CGXChange	15	25	31	11	22	104	82	51%
b) CGMap	2	11	42	28	24	107	83	84%
c) Digital content for learning	4	18	34	7	38	101	63	65%
d) Virtual resources center infrastructure	6	17	26	6	46	101	55	58%
e) E-publishing	15	25	18	4	38	100	62	35%
f) Virtual library service	3	10	32	30	31	106	75	83%
g) Scientific data standards and exchange: capacity development	9	19	23	8	39	98	59	53%
h) Web content and usage analysis	8	14	35	6	37	100	63	65%
i) Virtual Academy for the Semi-Arid Tropics (VASAT)	1	3	19	9	66	98	32	88%
j) Online learning resources	3	17	29	7	42	98	56	64%
3. Work culture (culture and behavior)	3	11	24	9	19	66	47	70%
a) Knowledge sharing in research (scaling out)	9	18	43	16	18	104	86	69%
b) Institutional knowledge sharing (strengthening champions)	8	14	39	23	22	106	84	74%
4. Coordinating actions	3	8	25	9	13	58	45	76%
a) Nurturing connections – communities of practice	8	9	46	24	20	107	87	80%
b) Technical developments – papers and case studies	9	11	35	8	37	100	63	68%
c) Economies through System-wide contracts, purchasing and agreements	5	12	30	26	29	102	73	77%
<i>answered question</i>						118		
<i>skipped question</i>						3		

Please note: "% +" refers to the percentage of respondents who rated the item favorably (agree or strongly agree for question 1; effective or highly effective for question 3). "# Who Rated" refers to the number who responded with anything but "Don't Know."

4. Looking back, what have been the most important accomplishments and/or outcomes of the ICT-KM Program?	
Answer Options	Response Count
	83
<i>answered question</i>	83
<i>skipped question</i>	38

5. Looking forward, what advice could you provide regarding the ICT-KM Program's:		
Answer Options	Response Percent	Response Count
a) Direction, strategy and/or priorities	96.2%	75
b) Structure or organizational placement in the System following CGIAR reforms	80.8%	63
<i>answered question</i>		78
<i>skipped question</i>		43

6. Please provide any other comments you have about the ICT-KM Program.	
Answer Options	Response Count
	48
<i>answered question</i>	48
<i>skipped question</i>	73

B. About You – Profile of Respondents

7. In which institution are you employed?		
Answer Options	Response Percent	Response Count
Africa Rice	3.6%	4
Bioversity	10.8%	12
CIAT	6.3%	7
CIFOR	2.7%	3
CIMMYT	5.4%	6
CIP	4.5%	5
ICARDA	3.6%	4
ICRISAT	4.5%	5
IFPRI	3.6%	4
IITA	1.8%	2
ILRI	4.5%	5
IRRI	6.3%	7
IWMI	3.6%	4
World Agroforestry	5.4%	6
WorldFish	4.5%	5
Other - CGIAR	14.4%	16
Other - non-CGIAR	14.4%	16
If Other - please specify		22
	answered question	111
	skipped question	10

8. What is your <u>primary</u> area of responsibility (or expertise)?		
Answer Options	Response Percent	Response Count
Institutional Leadership (DG or equivalent)	4.5%	5
Research or Research Leadership/Management	26.4%	29
Information Technology	17.3%	19
Information Management or Library Science	10.0%	11
Knowledge Management	12.7%	14
Communications or Marketing	14.5%	16
Other Administration or Management (Corporate, Finance, Human Resources, etc.)	14.5%	16
Other (please specify)		12
	answered question	110
	skipped question	11

9. What is your current or past involvement in ICT-KM and related activities (select all that apply)?		
Answer Options	Response Percent	Response Count
Community of Practice Participant	71.4%	55
ICT-KM Project Manager or Project Team	37.7%	29
ICT-KM Advisory Board or Steering Committee	14.3%	11
ICT-KM Staff	6.5%	5
Other (please specify)		34
<i>answered question</i>		77
<i>skipped question</i>		44

10. If you would be available for clarification or further comment, please provide your name and contact information.		
Answer Options	Response Percent	Response Count
Name	100.0%	56
Title/Employer	98.2%	55
Email	98.2%	55
Phone	82.1%	46
<i>answered question</i>		56
<i>skipped question</i>		65

Open Questions – Sample of Comments from Respondents

Question 1 - The ICT-KM Program has made progress towards achieving each aspect of its mission.

- Don't think the impacts are widely felt, outside of information/communication circles of the CG.
- Absolutely headed in the right direction but leaders need to follow the work not just worker bees.
- ICT-KM is a late adopter of innovations that we already implemented. It also is not taking note of bandwidth challenged environments we operate in, especially Africa.
- The only good thing is its marketing approach, but unfortunately based on over promise and under delivery, more hype than substance.
- I don't know what the ICT-KM program is, nor any concept of its mission / impact :-)
- If one is to judge success by the extent to which the CG actually demonstrates these traits, I would say we have not made much progress. I believe that ICT-KM has probably made a contribution, but the larger system is not easily moveable.
- Re (d), don't believe this has been achieved, but the fault lies with the fractionated and competitive nature of the System, in which individual centers don't talk to each other or share knowledge very well (the jury's out re whether or not the CG change process will remedy this...).
- The program has wandered aimlessly from one focus to another, seemingly in search of something that might succeed and gain attention.
- The CGIAR is not seen as a model in knowledge management, utilization or sharing. However the program and some of its participants are seen as leaders in using ICTs.
- The ICT-KM program needs to work more on nurturing communities of practitioners and stimulate dialog for joint action.
- Progress has been made but the CGIAR is far from being a model yet.
- Caveat: this is true for some centers, but the program did not reach all; inclusion of scientists is still main challenge, while communications and IT teams may be on board.
- Improving inf & k has been for a minority only.
- ICT-KM has had little influence on day-to-day actions and performance of CGIAR research.
- No change noticed relative to the situation before ICT-KM.
- ICT-KM has been instrumental in introducing IT innovations to the CGIAR.
- It was evident at an FAO workshop that the CGIAR was moving in the right direction re (d) courtesy of ICT-KM.
- ICT-KM has indeed strengthened the culture of sharing of information and knowledge within the CG. Other regional bodies have actually also benefitted from ICT-KM expertise.
- I do not believe there was adequate empowerment of the leadership or provision of sufficient budget to make the CGIAR as much of an international model and leader in the application of ICT's as would have been desirable and much needed.
- The CGIAR has not embraced ICT-KM as a key strategy system service, it should!

Question 2 - Please rate the following aspects of the ICT-KM Program.

- I am an 'end user' of ICT-KM work. I would like to see a clear plan/strategy/proposal from ICT-KM to help the CGIAR become a KS organization. There are lots of successful initiatives around the world we can draw lessons from.
- A much needed initiative which can help strengthen scientific impact and democratize the research cycle.
- I believe ICT-KM will be crucial in the future---will the CG be able to manage, share and disseminate knowledge effectively? Take its rightful place among global players in agriculture? stay tuned...
- The programme has to be supported by top management of the Centres in a more constant manner. This will lead to better results and acceptance.
- The ICT-KM program manages its projects through secondments. This embeds the projects, concepts, findings etc within Centres and tests things out within real centre and project contexts.
- Program leadership hasn't been able to integrate the different components and coordinators well.

- The agenda is hidden to many and decisions taken in isolation with poor consultation.
- Greater openness and inclusion especially in the planning process.
- One issue is the value of this type of central service for something that is so local in focus and implementation.
- Ineffective in reaching larger scientific community; initiatives mainly resonated with IT and communications staff.
- No evidence that having the program extended or not will make any difference to the CGIAR.
- Good potential but not adequately support core CGIAR research activities.
- Potential contribution in future is high, provided there is a substantial change in structure and way of carrying out business.
- ICT-KM program is too inward-looking to be of use in the reconfigured CGIAR.
- Seems to have set its priorities internally or via a small clique, rather than user-driven.
- The ICT-KM Program can be much more effective if adequately empowered and resourced. The strategy was relevant but the investments were not sufficient to deliver the strategy effectively.
- Insufficient human and financial resources to get beyond pilot studies in many cases. Perhaps it could have been more focused.
- ICT-KM could play a key role in the new CGIAR.
- The program will have an even bigger relevance in the CGIAR of the future, given the consortium model and structure. Instruments and mechanisms for information and knowledge management and sharing will be essential.

Question 4 - Looking back, what have been the most important accomplishments and/or outcomes of the ICT-KM Program?

- Raising the awareness of what is possible and what is available with ICT-KM.
- Facilitating cross-centre collaboration. Before the project it could take months or years to come to agreement to work on projects as a CGIAR system.
- Access to the decision makers at the Centres (DGs and DDGs) to get ICT-KM projects approved and championed.
- Linkages with other organisations doing similar work that has built up a critical mass for projects and attracted donors.
- Encouraged collaboration among Centres especially.
- CGVL has brought great visibility to centers and their publications among external audiences.
- Institutional knowledge sharing project - the training has improved my work and made a noticeable impact in our team's outcomes for linking science to policy.
- Supporting the CGIAR-CSI to become a world class example of collaborative knowledge sharing.
- CGMap - participation, i.e. MTP submission, is mandatory (has always been) and therefore CGMap is truly a systemwide product.
- Raising awareness of KM among senior management; building interest in knowledge sharing.
- Streamlining and trying to bring efficiencies and economies of scale into the IT side.
- Knowledge sharing and collaboration--helping the system to explore, learn and integrate new ways of working both institutionally and in its research---some major changes have happened.
- This program has strongly brought in the use of ICT for many issues, so that time saving and increasing efficiency has been made.
- Putting ICT-KM on the map at the CGIAR.
- Forging communities of practice.
- Coordinated IT projects at the CG level.
- Providing a single point of entry/interaction for non-CGIAR partners to work with the 15 Centers, which had before been close to impossible.
- The move to CGX2 and Easy MTP. With these projects we are starting to see some impact.
- Influence on changing CG culture (KS - both institutional and in research) - we are still far away from reaching the goal, but ICT-KM set up the right direction in this thrust.
- I consider the program's achievements in knowledge sharing to be highly important, though regrettably it's not clear how to move this work forward in the CGIAR.
- Stimulating and supporting creative applications of ICTs and demonstrating what the potentials could be. Unfortunately only lukewarm championing and uptake at higher levels in the CGIAR.

- Learning tools on-line for partners, CSI, and purchasing negotiations.
- The ICT-KM AAA framework - it not only defines what it means to make research information Available, Accessible and Applicable, but also provides benchmarking to help centers and programs put the framework into practice.
- Creating a COP of communications professionals among the centers - and that is a good result and starting point to now move forward.
- The Program has allowed access to some useful online learning resources, has a slick web site and seems to have helped (already existing) communities of practice, it is far from being a recognized leader with a clear identity.
- Introducing the concept of ICT-KM to a skeptical audience and showing it can have an impact.
- Hosting Centers web sites.
- Connectivity support to Regional Office in Burkina Faso.
- Bringing the CGIAR -from an ICT/KM perspective- from the middle ages to current realities.
- I was very impressed by CG Map. But there is no point of developing a great tool and not publicizing it.
- External partnerships.
- Good progress in introducing social communications and institutional knowledge sharing to strengthen work culture.
- Work on knowledge sharing in research and strengthening knowledge champions.
- That it existed as a system-wide effort, that it was enthusiastically managed and that it tackled or helped some important initiatives (CGMap and the CSI).
- One major outcome is in the culture of sharing in knowledge and information that the Program has generated within Centres.
- Their impact is not just on systems, but even much more on the approach, the philosophy, the example of what CAN and SHOULD be done. They should be applauded for this.

Question 5a - Looking forward, what advice could you provide regarding the ICT-KM Program's: a) Direction, strategy and/or priorities

- Aggressively promote the CGIAR work among external audiences.
- More focus on internal CGIAR needs rather than enhancing the CGIAR's global visibility.
- Do not try to be cutting-edge innovative, try to be a (relatively) early adopter.
- Capacity strengthening, enhancing collaboration and communication is important to ensure people know what resources are available and how to make use of them.
- Open source all the way, more real technology staff rather than marketing people; the collection of ICT and separately of KM at the centers could serve as CGIAR-wide platform.
- More focus should be made on center libraries as these need ICT-KM support urgently.
- Individual centers would benefit more from a regional than a global approach.
- Invest more in the CGIAR-CSI.
- Help CGIAR centers to incorporate KS strategies in their research plan.
- More attention to technology infrastructure, access and databases, less on communication in general and marketing.
- Improve online access to information resources.
- Collaboration and standardisation across Centres.
- Seed 'system' directions in areas like IT management and services and recurring IT applications.
- Need strong champions embedded in all the centers and megaprograms.
- Need to clearly show the 'whole system' and the 'whole center' benefits from investments.
- Pick fewer major interventions for itself while enabling interventions by others.
- The ICT-KM program should become an essential part of the new CGIAR management process but it should be able to make decisions and mandates regarding ICT in the CGIAR; currently each center can go their own way.
- A clearly communicated ICT strategy with all stakeholders has not been produced, priorities are vague, no alignment with local/regional research needs.
- Limit your work plan to what your budget will support; don't spread too thin. Avoid fluff; look for substance that advances the work of the CGIAR.

- Be in closer contact with actual practitioners in ICT-KM in the centers, identify shared "ground-up" initiatives (where various centers are grappling with similar issues) and jump in and provide support to gain efficiencies and improve CG effectiveness.
- Preservation of the intellectual output of CGIAR through institutional repositories.
- Focus on one system for web based applications across the CG for all platforms for KM.
- Should stop being the IT department of CGIAR and focus on knowledge sharing for partners.
- Figure out where it sits between ICT and KM activities and get more focus unless the program would be expanded greatly.
- Further help to facilitate collaboration across Centers and with external partners; promote culture change around KM.
- Take an honest stock take of what has worked and what hasn't.
- eLearning will become increasingly important and more needs to be done in this area.
- Concentrate on strength from the past and projects where at least 5 centers will be willing to collaborate (and give up their current systems if needed).
- There is a disconnect between traditional CGIAR science areas and ICT-KM. The program needs to engage more with the core business and scientists of the system.
- Make sure that CGIAR researchers can count on similar scientific information access as researchers in other academic/research institutions in developed countries.
- Should be set based on a needs assessment.
- Better integration of activities.
- More emphasis must be placed on the applications of ICT in science. Greater support for IT infrastructure development of the Centers must be a priority also.
- More service orientation with greater demand assessment prior to investments in products. Many of the issues have been due to poor commitment of CGIAR to these central facilities and not enough buy in by consumers.
- Start with the scientists and DDG-R's, base priorities on their needs to network and collaborate
- More interaction with the users, try to develop initial pilot projects.
- Need clear base-level directions and priorities with cost/benefit, instead of pie-in-sky.
- Continue to work on helping the CGIAR function as an organic system as opposed to competing entities through the use of KM/KS approaches and tools.
- Expand activities to include important CGIAR partners internationally and at the national level.
- Implement the program through fewer, larger, strategic activities.
- Systems security.
- More ICT-KM strategy support for science collaborations.
- Continue inter Center sharing of best practices and use Center specialists to mentor colleagues in other Centers with less experience.
- Providing advice at Center level.
- Let private sector provide these services.
- Do more to raise funds.
- This cannot be a direction-setting office or a funding agency which it has become.
- Focus on using good resources available externally.
- Less efforts on Web 2.0 social aspects and more on management and sharing of core information in order to make it really open and re-usable by ARD partners: e.g. Open Archive architectures.
- Based on the new structure, start developing policies, procedures, based on one standard.
- Should seek the political support and buy-in from the mega programmes under the new structure in order in order to guarantee consistently high level of strategic support.
- Play a key role in promoting a unified CGIAR Consortium. Focus on value-added system-wide IT/knowledge services, e.g. access to databases, collaboration tools.
- Should be problem driven, agenda setting by scientists/managers, not by IT.
- Link to the ILAC Initiative.
- Involve the Centres a bit more in setting the priorities. The priority should now be focused on implementation and management of the new SRF and mega programs.

Question 5b - Looking forward, what advice could you provide regarding the ICT-KM Program's: b) Structure or organizational placement in the System following CGIAR reforms

- Do not know as I do not know what the system will look like.
- Separate technology from knowledge aspects, with ICT expertise distributed to centers rather than centralized.
- More involvement of the Centers in developing countries, not "Rome" centered.
- It depends on how the common services component of the CEO office will develop. It could be the platform to develop a regional structure to provide common ICT-KM services to the CGIAR.
- Close it down, or relocate it to the most bandwidth challenged location so they learn to find and develop effective solutions.
- System's service function under Consortium CEO.
- A cross centre regional structure to facilitate implementation of common services.
- Perhaps need to separate CIO role (to set and enforce policies) from an 'ict-km program' (to test and promote effective learning, innovation, services, etc). CGIAR needs both sticks and carrots to enforce some behaviours; to incentivate others.
- This should be a core function of the Consortium.
- I see the ICT-KM program as a strategic part of the CGIAR reform process: supporting the new consortium with ICT and KM best practices + supporting and mandating inter-center projects.
- Centralized services could be quickly out of touch with the needs of the various institutes.
- Consortium office will need a CIO component that has responsibilities related to IT, IM, and KM.
- The CGIAR needs an office that supervises the development and use of the latest ICT technologies in the whole system.
- ICT-KM focal person in each Centre.
- Should be a service provided by the consortium to the Centers; report to the new CEO.
- Should be one of the pillars of the news system.
- Too soon to say.
- Improve the governance and getting buy-in from the senior leadership. Currently the governance are members of senior leadership who aren't really perceived as 'champions.'
- Should remain an important coordination mechanism for the use of ICT-KM within the System.
- Needs a complete rethink. Many of the assumptions about how a system-wide IT system would look are probably flawed.
- Placed outside the line management of a single center, although it could be physically located within a Center.
- House at a central entity not at a center.
- Included among the crosscutting services to be provided by the new Consortium, or as a component of one of the mega-programs, depending on how these are designed.
- The CGIAR reform process needs to better engage ICT-KM.
- Needs to be a CG wide initiative.
- Grow out of its program structure, and be able to carry forward the current services in support of core business processes.
- Consortium based - many economies of scales are still possible.
- Collective service with a clear participatory decision making authority within the Consortium.
- Consider a much greater private sector approach or consider outsourcing the central facility.
- More productive and cost-effective if ICT and KM are operationalized by a self-organizing consortium of IT and Knowledge management people that are based at centers similar to CSI.
- After its past performance, I see no need to continue this highly centralized Program. Redefine needs and priorities of the System with the assistance of high-level consultants and get specific programs funded for implementation at Center level.
- Manager responding directly to the new CEO with liaison person in each center.
- Central Consortium service.
- The CIO should become a Sr. Officer within the CG Consortium Office.
- Not required in a reformed set up.

- Locate centrally and link it to the support and building up of an evaluative culture in the CGIAR, that engages in self-examination, seeks evidence, makes time to learn and encourages experimentation and change.
- Should be central to Consortium business but with an independent head and consulting capacity.
- ICT KM needs more executive powers (for lack of a better term) to make things happen.
- The CGIAR reform process cannot succeed without this type of Program; the Program needs to be placed in whatever structure ensures it is seen as an instrument for the whole CGIAR and its constituent parts.

Question 6 - Please provide any other comments you have about the ICT-KM Program.

- Strengthen the programme office with more staff that support the centres more effectively.
- Combining ICT and KM may not be an efficient use of resources.
- A concerted effort will be required to sustain the benefits of the institutional knowledge sharing project. Recommend secondment - one person per institute - to help facilitate this.
- Most of the successful projects have been driven from the bottom up.
- ICT-KM has had a very small budget and resources and thus cannot have been expected to make sweeping changes in the CGIAR. The fault lies with the larger system and the overall culture of individualism both among scientists and between centers.
- Participation in ICT-KM activities should be evenly distributed among centers.
- Increase the KM and communication efforts in the CG and get the support of all stakeholders since this is crucial for the success of the programme.
- Greater interaction with the various communities is highly recommended.
- The program should advertise their services much more to increase awareness, buy-in and use.
- Offer more online virtual trainings.
- ICT-KM staff members are always available to listen to your needs and advise on possible solutions.
- Interest and usage of most services seems to be restricted to enthusiastic early adopters. The challenge of wider take up of CG ExChange and other investments seems not to have been met.
- It started in conflict with the centers and has done little to improve its relationship with them.
- Very disappointed with the dictatorial management of a single person.
- The disregard of individual circumstances, the laggard approach to solutions, smothered by an extreme marketing sauce has not been a service.
- Program focuses on own hobby-horses rather than solving real problems or creating real opportunities.
- Good experiment that has yielded results clearly showing what not to do.
- Not everything worked well, but knowing how complicated it is to make CG centers to collaborate, I think that ICT-KM has done well.
- ICT-KM has clearly been handicapped by having only an advisory function and therefore not being able to move the system forward effectively. The reformed CGIAR will provide a much better platform for effective work in communication, IT and knowledge management
- With the little money, support and complete lack of authority miracles were made!
- Get out and talk to Centers more often, and make use of low cost high quality third party applications (eg Google) rather than re-inventing the wheel in-house at high cost and buggy.
- The CG can't afford any longer to have such key system items on a fee for service voluntary financing scheme, it should be part of the overall system overhead and with power to align all cg ict/km related activities into something effective and efficient.
- In the future a clear mandate should be given and then clear support for the program to be able to move forward with carrying this out.
- The CGIAR is an information organization. Adequate and sustained investment in this area is crucial for the CG Centers to remain competitive in the future. A start has been made, but there is so much more that could be done.

Annex 6 – Lessons Learned from the CGIAR ICT-KM Program

In reviewing the various CGIAR ICT-KM Program documentation, many lessons learned from the knowledge management projects can be derived since the inception of the ICT-KM Program. Based on the July 2008 RE4D.net independent evaluation of the first phase of the Institutional Knowledge Sharing Project (posted on June 16, 2009), the key lessons learned were:

- Develop a common advocacy strategy among the various initiatives promoting innovation, learning, knowledge sharing, and change to enable them to insert key messages into organizational development processes.
- Show benefits better, specifically for senior scientists.
- Continue to create an awareness of knowledge sharing and further enhance its definition.
- Start with a small project with people willing to experiment for introducing knowledge sharing.
- Fund the projects appropriately with the right mix of skills.
- Set the initiative's scope.
- Create spaces so people can be heard.
- Formulate strategies to allow staff to engage in the process, thereby giving them a sense of ownership of the results.
- Show how knowledge sharing can contribute to the scientist's research and their respective research organization.
- Obtain senior management buy-in.
- Seek champions for the knowledge management efforts.
- Build institutional capacity in knowledge sharing principles and methods.
- Align knowledge management objectives with the strategic goals of the CGIAR System and Centers.

In terms of lessons learned in developing online communities, FAO has issued a checklist for an online group/network/community (Purpose Checklist, FAO, June 2009):

- What is the desired purpose and outcome for the group. What is the intent behind the purpose?
- What kinds of members/participants (target membership) do you want to draw in or need to participate?
- What kinds of member interactions do you want to foster?
- What kind of technology infrastructure and support do you need?
- How long do you expect the online community to last?
- What kind of agreements, rules, or governance do you want for your online community?
- How will you know if your online community is meeting its goals?

Other lessons learned have been acquired through the ICT-KM Program. These include (ICT-KM Program 2006 Investment Plan Final Coordination Activity Report 2008-2009; External Review Panel Report of the CGIAR ICT-KM Program 2004 Investment Plan (Bob Day, Chair); M&E Report on the ICT-KM Program (Terry Smutylo, April 14, 2006); Monitoring and Evaluation for Learning: The ICT-KM Program Experience; ICT-KM Annual Report 2008: Rising to the Challenge):

- Have a scheduled meeting with all project leaders in one space to discuss challenges, future opportunities, and potential areas of collaboration .
- Ensure that Program Coordination efforts begin prior to projects and remain at least a few months after the conclusion of all projects—this would allow for lessons learned from the Program as a whole to be captured and disseminated.
- Incorporate the following areas as part of the ICT-KM Strategy: Coordination and Integration of Cross-Center Projects; Sustainability of Projects; Global Public Goods; Open Source Software; ICT Issues.
- Link the capacity strengthening process to the local milieu.
- Build trust and credibility to encourage knowledge sharing to take place.
- Develop ownership and participation.
- Build M&E capacity.
- Make sure M&E is used.
- Short-term funding windows lead to a continuous difficulty in attracting and retaining qualified individuals.
- Engage partners pro-actively early on.
- Continue to de-jargonize the Knowledge Sharing work that is being undertaken.