Imagine if you had access to the collective information resources of the entire CGIAR System. Almost 35 years of vital research and knowledge located virtually in one place. All the CGIAR information you need, the moment you need it.
What if you were also given a unique set of tools to support collaborative work with colleagues and partners around the world? And what if all staff were able to connect to the Internet, and each other, at high speeds? The possibilities to share, learn, and build global relationships would be enormous. Working together without boundaries would be the new norm.

If you can imagine all of that, you will understand what the CGIAR’s ICT-KM Program is striving to achieve. This is the goal that we have been working towards in 2005.

Enrica Porcari
Chief Information Officer
ICT-KM Program Strategy

The ICT-KM Program has a vision that embraces the aforementioned goal while also seeking to safeguard, develop and make accessible for use by all stakeholders the Global Public Goods (GPGs) that are managed by the CGIAR.

To realize this vision of a **CGIAR without Boundaries**, the Program must achieve success in five major areas (see cover diagram):

1. **A Management Structure** (including governance, advisory and management elements) must be in place to stimulate, support and shepherd the process of change.
2. CGIAR staff, regardless of location, must have at their disposal a robust and reliable **Connectivity** infrastructure for communication and collaboration.
3. CGIAR data and information must remain openly available and be safeguarded, something that requires effective management of **Content**.
4. The prevailing **Work Culture** must be one of collaboration and knowledge sharing, both within the CGIAR System and between the System and its partners.
5. **Coordinating Actions** between and among Centers, staff and resources that can yield economies of scale and better business practices for CGIAR operations need to be pursued.

The ICT-KM Program strategy is being implemented principally through projects and System-wide activities coordinated by the Chief Information Office Unit along the lines described above. At least two stages, which are described in the Investment Plan documents, are anticipated in the implementation of the strategy.
ICT-KM Program

Investment Plans

The first stage, described in the 2004 Investment Plan, focuses programmatically on connectivity, content and culture. The Plan continues to strengthen communications infrastructure across the CGIAR System; improve tools for manipulating data and information; nurture communities of practice, provide platforms for collaborative action and information sharing; initiate steps for integrating information systems; and improve the knowledge sharing culture within the CGIAR. The focus of this first Plan, which is largely internal, directed as it is at the 15 CGIAR Centers, aims to strengthen the necessary infrastructure for System-wide benefits.

A second Investment Plan is being developed – this will provide further support to consolidate the gains to date of the activities started under the first Plan and extend its focus beyond the CGIAR Centers’ infrastructure to improving broader access to scientific data. The emphasis will be on the CGIAR’s main objective: improving agricultural development and reducing poverty through improved better access to and use of data and information, and greater knowledge sharing in research.
Results to Date

Significant progress has been made in those areas that are critical to our mission’s success:

- A management structure and strategy are in place, with a diverse portfolio of 14 cohesive projects under way.
- The implementation of System-wide activities (such as an intranet, common library services, common e-publishing services, software and subscription acquisitions) is making good progress. Active Directory, the technical foundation for seamless collaboration among Centers, is now fully implemented.
- The profile and understanding of the role of Knowledge Management/Sharing (KM/S) at multiple levels has been raised in order to stimulate a multiplier effect.
- The level of engagement of the CGIAR in international events (in the area of ICT-KM) has been raised.
- Commitment to learning-based Monitoring & Evaluation (M&E) methodologies has been raised, leading to more informed and timely decision making within the Program and its projects.
- Commitment to the application of common standards and metadata approaches has been raised with the goal of improving access to diverse Content resources.
- Significant financial savings from System-wide purchasing approaches have been achieved.

The critical services, attitudes and processes necessary for achieving “a CGIAR without Boundaries” have now been established. Some selected activity highlights are presented in the next sections.
Getting Better Connected

Improving Connectivity is an ongoing process, whether it is connecting people to data and information, or people to people. A strong start has been made, and workable solutions implemented.

The Second-Level Connectivity Project is improving the Internet connections of many of the larger remote offices, with a focus on Africa. To date, the Project has surveyed 49 offices at 18 different locations where Internet access needs to be improved. Since April 2005, nine different CGIAR Center offices located in the same building in New Delhi have been enjoying the benefits of improved joint connectivity. Productivity at these offices has increased and inter-Center collaboration is on the rise. As one office head commented, “There is strength in partnership and collective actions.” Currently eight other CGIAR sites are ready for installation.

Another project, Global Advanced Research Networks (ARN), is enabling several Centers to connect to high-speed advanced research networks (known as Internet 2). IRRI, CIP, CIMMYT and ICARDA staff will soon be able to interact face-to-face, holding meetings, seminars and workshops from opposite sides of the world via ARN connectivity. By the end of this Project, it is hoped that others will see the benefits enjoyed by these Centers and take the initiative to establish their own ARN connectivity.

The Consortium for Spatial Information (CSI) Project nurtures the growth of the community of spatial information experts and is developing a suite of software tools for facilitating the handling of geo-referenced data.
Immediately after the Asian tsunami disaster on 26 December 2004, the CSI GeoPortal was called into service to provide a data dissemination platform for emergency response maps. Many of the CGIAR Centers working in the affected regions are now actively involved in providing assistance.

CSI joined forces with other UN organizations in developing GeoNetwork open source, a standardized and decentralized spatial information management environment, designed to facilitate a wide community of spatial information users to have easy and timely access to available spatial data and to existing thematic maps that might support informed decision making.
Accessing Content, Working with People

With the launch of CoXchange, an intranet/extranet system that spans the CGIAR’s 15 Centers and beyond, the more than 8,500 scientists and CGIAR members of staff will have the opportunity to come together for the first time as a truly unified system – regardless of their location. People working in more than 100 geographically scattered locations will be able to share information and collaborate in a way unprecedented in the history of agricultural research.

To manage the various Content components more effectively, seven activities under the Content for Development Project are working together to build CoXchange. Once this system is fully established, users will be able to access a formidable array of information resources; create collaborative online workspaces; locate anyone working in the CGIAR, either by name or area of expertise; keep up-to-date with the latest agricultural developments both within and outside the CGIAR System; access training materials; obtain information about CGIAR research projects … the list goes on.

More specifically, CoXchange will give users easy access to the collective resources held by the CGIAR libraries and to other leading scientific databases, journals and reference materials through the Virtual Library Service. It will also allow them to access all relevant learning resources available from the 15 CGIAR Centers through the On-line Learning Resources portal. Work related to this portal has also helped establish a growing virtual CGIAR learning community of practice, showing other CGIAR communities (Center staff and partners) the possibilities that are open to them in their respective areas of expertise.

Some of CoXchange’s features will also be made available to CGIAR partners – redefining the way we work and interact with each other.
On the basis of prototypes produced and the results of studies done to date, Plumtree, an intranet/extranet platform, was chosen as the foundation of the ccXchange. As an added bonus, Centers have the option to use the same software for their Center specific needs – IWMI has already opted to do so.

Another content-related activity, the Virtual Academy for Semi-Arid Tropics (VASAT), has demonstrated that beneficiaries (farmers) at the grass roots level are part of and can participate directly in information and knowledge flows with the international community.

Changing Work Culture

Under pilot initiatives supported by the Knowledge Management/Sharing (KM/S) Project, four Centers successfully incorporated KM/S principles and practices into several of their high-profile Center events. In turn, these events have served as entry points for promoting a KM/S culture.

The Project also undertook a series of complementary activities, including facilitation training, a study of human resources policies, and the development of an online KM/S toolkit. In addition to achieving concrete outcomes through the pilot initiatives and other activities, the KM/S Project has created a solid core team of KM/S specialists in the CGIAR who possess the skills and motivation necessary to move this work forward.
To build on the interest and tangible gains generated by the Project, the four Centers involved proposed a new initiative as the second phase of the KM/S Project. This next phase will pursue three main lines of action: extending the results of the pilots to other Centers; expanding the community of KM/S champions to all Centers and Programs; and integrating KM/S in major CGIAR research partnerships.

“Thanks to the support of the KM/S Project CIFOR’s last annual meeting was undoubtedly the best one ever. Staff came away excited and energized.” – David Kaimowitz, Director General CIFOR

**Highlights of Coordinating Actions**

**Nurturing Connections**
Part of the ongoing function of the Program is to nurture individuals and communities and to make mutually beneficial connections both within and beyond the CGIAR System. To this end, the Program has nurtured 10 Centers in their adoption of the CIAT-developed Project Management system. It has also worked hard to foster the growth and productivity of the Information Technology Managers and the Information Managers communities, both at their annual meetings and on an ongoing basis.

**Joint Purchases**
The ICT-KM Program has saved more than **2.65M USD** over the last three years, including **0.33M USD** (a conservative estimate) in the first nine months of 2005, through joint purchasing decisions. The total budget for 2005 for the CIO Office Unit, which is responsible for implementing the Program, was **0.33M USD**.
Collaborations in the IT Area
The Program has also worked with the IT Managers to implement CGIAR Active Directory (AD), a platform that permits CGIAR staff to use a variety of software applications throughout the System, including the soon-to-be launched cgExchange, with only one username and password. This is a great boon for those who have difficulty remembering multiple usernames and passwords – an enhancement that will cut across communities and systems.

Continuing the Program’s collaborative activities with the IT Managers, and building on Active Directory, the upgrade of Center mail systems to Exchange 2003 has been completed. The new Exchange server includes many new features that promise to make the life of the ‘mail addicted’ CGIAR staff easier, especially the frequent travelers.

Tenders are now being accepted for a contract for shared IT services that will take effect from March 2006.

Together with the Internal Audit Unit, a number of Good Practice notes related to IT have been released.

The CIO Office collaborated with CIFOR, IWMI, WorldFish and FAO to forge an agreement to implement the “electronic Natural Resources Information Center” (eNRIC) Pilot Project. This project will explore options for extending shared library services to internal staff with the aim of gaining greater efficiencies.

Monitoring and Evaluation
A comprehensive Monitoring and Evaluation (M&E) plan was implemented, and the results of the Program’s first intensive evaluation were reported in The ICT-KM Program Revealed, Annual Report, March 2005. This report focused on internal learning within the Program and was aimed at principal stakeholders. The plan was based on the Outcome Mapping approach
(a methodology that assesses the contributions certain programs make to the achievement of outcomes) and involved Program and project level M&E with externally administered questionnaires sent to stakeholders. Project Coordinators and other interested CGIAR staff received training in this and other methodologies soon after the approval of the 2004 Investment Plan. As a result, two other CGIAR System Office Programs (Gender & Diversity and the Internal Auditing Unit) and at least one Center have implemented their own M&E strategies based on this exposure.

The external evaluator’s assessment of the results indicates that the Program is seen as having had “a positive influence” in its mandated area. The assessment also identified the need for:

- More intensive dissemination of progress and achievements to key stakeholders.
- More proactive efforts to forge linkages across Centers and projects.
- More technical support for projects.
- Clearer, simpler reporting guidelines.

All of these recommendations have either been addressed or are in the process of being addressed.

Given the integral role the CIO Office has assigned to monitoring and evaluation in this Program, it should be clear that it is fully committed to accountability, open learning, and responsiveness to the changing global environment of research for development. Following these principles can only improve the ICT-KM Program’s chances of succeeding at the complex task assigned to it. That task is nothing less than the metamorphosis of CGIAR knowledge-sharing habits and methods of collaboration across geography, disciplines and institutions.
Planning for the Future

Access to accurate and timely information is essential in the global effort to fight hunger and poverty in the developing world. To support this effort, the CGIAR Centers have produced a large amount of data, information and knowledge. Although much of this information exists as GPGs held in trust by the CGIAR Centers, it is not well known – largely because it is not organized in a common way. The number and type of databases generated by the various scientific communities has expanded rapidly, but CGIAR partners and global research communities face difficulties accessing these resources.

The GPG1 – Information System Project funded in 2003 provided support to individual information systems. In addition, a project in the 2004 Investment Plan was responsible for training 44 key CGIAR staff in the latest technological approaches being used internationally to maximize access to dispersed scientific data. This project also provided strategic input on the next steps to be taken by the CGIAR in this area. Since the 2004 Investment Plan was not designed to address issues related to the broader access and use of GPGs, there was a need to get advice and inputs from a wide cross section of stakeholders.

An Online Consultation

As part of the conceptualization process for the next stage of the ICT-KM Program, the CIO Office organized a detailed and intensive, two-week online consultation in March 2005. This fully-facilitated event involved more than 200 CGIAR staff, NARS partners and external experts. A principal aim of the consultation was to obtain different perspectives, examples and suggestions on how the CGIAR can best maximize the value of its GPGs.
Over the two weeks, the online discussions highlighted several issues concerning how best to respond to the difficulties identified above. These were in addition to the overall conclusion of the group for the need to initiate a systematic effort to “collate” these dispersed GPGs into a consolidated view (according to the specific needs of any user at any given time) and the need for more effective and efficient search facilities. These highlighted issues include:

- The need to know what GPGs actually exist at any given time,
- The importance of identifying the priority users (present and prospective) of these GPGs and their priority needs,
- The need to recognize that the human element will always be present in order to maximize the value and use of GPGs – to truly tap into “knowledge” through knowledge sharing,
- The importance of acknowledging that significant mutual benefits ensue when partners are involved in the elaboration and implementation of solutions.

The consultation suggested an approach and concept for the CGIAR and its partners to provide their ‘information customers’ worldwide with simple but enhanced access to the vast array of GPGs in an easy, searchable and flexible way. This involves organizing information in a common way using, wherever possible, proven standards and approaches; increasing awareness of the existence of these information resources; but effective dissemination and access gateways to these resources; and, ultimately, making our work available to a much wider audience.
Concluding Note

The ICT-KM Program and its projects, along with other reform initiatives within the CGIAR, are working towards the common goal of transforming the Centers into a single, finely tuned ‘system’ – an organized concentration of intelligence, knowledge, creativity, technology and other resources that will enable the CGIAR to operate more efficiently and effectively towards its goal of boosting food security and alleviating poverty in developing countries.

While launching and guiding such an ambitious and geographically dispersed initiative has not been without its challenges, we believe the significant progress made to date provides a solid foundation for our future plans. This progress is the result of the hard work of many individuals – CGIAR Management, the Advisory Group, Project Coordinators and project teams. We thank all of those who have invested so much energy into making our vision a reality. During the next phase, the Program motto – ‘Collaborate, Create, Communicate’ – will again be pursued with enthusiasm. In that spirit, feedback from our many stakeholders is welcome.

Enrica Porcari
Chief Information Officer
A Single Tree Does Not Make A Forest

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Collaborate, Create, Communicate
A PROGRAM OF THE CGIAR

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