Learning to share knowledge for global agricultural progress

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Abstract: Web 2.0 tools combined with face-to-face methods offer new opportunities for better knowledge sharing across disciplines, languages and borders. This article comprises an overview and case studies – the personal accounts of six participants and one facilitator of a *2008 Workshop on Knowledge Sharing*, sponsored by the Consultative Group on International Agricultural Research. It lays out the rationale for, and lessons learned from, those efforts, as well as from a second workshop hosted by the Food and Agriculture Organization of the United Nations. It explains why, in today's culture of self-directed learning, group experiences remain essential. The authors describe their learning trajectories and application of knowledge sharing tools and methods in their work.

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Biographical notes: Simone Staiger-Rivas is a Social Communicator by training. She currently leads the Institutional Knowledge Sharing Project of the CGIAR's Information and Communications Technology and Knowledge Management (ICT-KM) Program. She contributed to the two knowledge sharing workshops reported in this article, as a Designer, Coordinator and Facilitator. She is a German national and is based at the International Center for Tropical Agriculture (CIAT) in Cali, Colombia.

Alessandra Galié is doing her PhD research at Wageningen University in collaboration with the International Center for Agricultural Research in the Dry Areas (ICARDA). She is assessing the social impact of participatory plant breeding on women farmers, with special attention to the issues of empowerment, governance and rights in Syria. Her fieldwork adopts a participatory action research approach focused on gender-related and tacit knowledge of farmers, and on knowledge sharing.

Bernhard Hack is the Founder of RE4D.net. He is an Austrian Development Professional specialising in independent evaluation consulting. He is interested in knowledge sharing, network analysis, systems thinking and policy coherence for development. Together with his wife Alessandra, he also runs a Bed & Breakfast in central Italy. Whenever he finds the time, he works on the family farm, mainly producing olive oil and wine.

Alexandra Jorge is an Agricultural Researcher with a DPhil in Plant Physiology. Her past work focussed on the development of new varieties of root crops and new techniques to improve yields and availability of planting materials in Africa. She has also worked on various techniques to promote and increase the use of forage crops. Currently based in Ethiopia, she has a joint appointment with two CGIAR centres, the International Livestock Research Institute (ILRI) and Bioversity International, to create a knowledge base on best practices for gene bank management.

Vanessa Meadu loves the challenge of sharing science with policy makers and other stakeholders. Based in Nairobi, Kenya, she works for the World Agroforestry Centre (ICRAF) as a Communications and Project Officer for the global project on environmental policy and the ASB partnership for the tropical forest margins. She is particularly interested in adopting/adapting web-based knowledge sharing tools for a low-bandwidth context.

Florencia Tateossian is a Political Scientist by training, she worked for the Secretariat of the CGIAR from 2004 to 2008. She was part of the CGIAR communications team, responsible for the design and development of stakeholder engagement activities, mainly with civil society organisations and parliamentarians, as well as for policy and research communications, media development, and monitoring of the progress report of the CGIAR Global Public Goods Project. She recently joined the United Nations Development Programme (UNDP) in New York as a Network Facilitator, managing the evaluation knowledge network.

Gauri Salokhe is an Information and Knowledge Management Officer at the Food and Agriculture Organization of the United Nations (FAO), based in Rome. She has over eight years experience in agricultural information management. Her work centres on metadata standards, 'common languages' that allow diverse agricultural databases to share information in a standardised manner. Since late 2007 she has been involved in knowledge management at FAO.

Nancy White is an Independent Consultant interested in the application of learning and knowledge sharing online and offline. She has worked in broadcast communications, maternal and child health, and technology. For the last 11 years she has operated her own company, Full Circle Associates, to help non-governmental organisations design and implement processes to achieve their goals. She has a special interest in online facilitation, and all forms of online groups. She is a US national living in Seattle, Washington.

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1 Introduction and overview

Scientific knowledge has little or no prospect of widespread application and public benefit until it is systematically shared. In the last century, low adoption rates of research-based agricultural technologies led scientists and donors alike to seriously question the effectiveness of communication methods and knowledge exchanges with farmers and other clients and partners in developing countries. More recent trends and realities also call for fundamental changes in the ways we communicate, share knowledge and solve problems. In agricultural research, for example, projects have become more complex due to the larger number of partners involved, greater geographical reach and

multi-disciplinary integration. This has been accompanied by information overload and the application of ICTs to alleviate the problem.

This overview and five case studies describe recent efforts by the Consultative Group on International Research (CGIAR) and the Food and Agricultural Organization of the United Nations (FAO) to explore with agricultural and communications professionals the use of novel or recently developed tools and methods for knowledge sharing (KS) and to learn with this group as a community. They also present and analyse the rationale for improving the sharing of research-based knowledge and the challenges in doing so.

1.1   Rationale for the KS capacity strengthening initiative: organisational development, knowledge management and network theories

The CGIAR supports 15 research centres around the world, as well as many programmes that draw on scientific expertise from diverse institutions, both CGIAR and non-CGIAR, in both developing and industrialised countries. The challenges of effectively sharing scientific and institutional knowledge across this complex mix of disciplines, languages, political borders, agro-ecological environments and organisational cultures are daunting. Many of the same challenges apply to KS within FAO and between FAO and the 191 member states it serves.

Organisational development

In 2004 the CGIAR started a KS project as part of its Information and Communication Technologies and Knowledge Management (ICT-KM) Program.

The key objectives of the project were to contribute to the organisational development of the CGIAR and to improve the effectiveness of this diverse research system. Our strategy was to promote collaborative learning and innovation and to support the use of KS approaches and tools throughout the CGIAR.

The first phase of the project (2004–2006) concentrated on face-to-face interaction and in using KS-friendly meetings as an entry point for enhanced interaction among scientists and other staff (Russell et al., 2005). The second phase of the project (2007–2009) emphasised the need for more effective online collaboration within the CGIAR system.

The project structured its activities around the concepts of action research, organisational development and knowledge management (KM). KS is related to action research, or 'learning by doing', in that it emphasises emancipatory processes rather than a set of techniques (Reason and McArdle, 2007). Furthermore, the project's focus was specifically on the relationship aspects. Consequently, an important project priority was to provide opportunities for staff and partners for reflection through dialogue in order to influence attitudes and skills (Pasteur, 2006) that might support organisational change.

Knowledge management

From the KM perspective, the most important aspect for project structure and development was the assumption that 'knowledge is the property of practitioners' and that staff and partners should be empowered to 'act as practitioners of their knowledge' (Wenger, 2006). Previous efforts to foster collaboration among CGIAR centres and partners tended to focus exclusively on one end of the KM spectrum (Binney, 2001),

namely better management of information flows and capture of codified knowledge resulting from agricultural research. KM should include the other end of the spectrum as well, and shift from data to people.

People-centred and practical approaches to KM (Collison and Parcell, 2004; Davenport and Prusak, 2000; CIDA, 2003) are thought to contribute more effectively to desired changes in behaviour and organisational culture when they are gradual and 'bottom-up'. They are also seen as more effective when they include participatory experimentation, capacity building and learning-by-doing – processes that may benefit from external facilitation and support, but which should be home-grown and evolutionary.

Networks

Research projects are nowadays executed by numerous and varied partners and stakeholders. The success of a project and the subsequent uptake of the research results depend largely on the team's ability to create and expand networks that allow the information to flow from one node or user to the next in order to reach the end users, mostly poor farmers in developing countries (Douthwaite et al., 2008). Scientists themselves have an increased responsibility to communicate their findings to their peers and through their own networks, and this happens mostly online because research teams are geographically dispersed. The effective use of new ICTs is crucial to achieving the uptake of research results, especially in international organisations.

Project framework

Our assumption was that KS principles, attitudes and skills can support our organisations' development. They help build internal capacity so that staff can work more effectively towards their institutional missions and sustain their organisations over the long term. This led the project to develop the following planning and action framework (Staiger, 2008).

- Complexity-empowerment: KS can help us recognise and deal with today's complexities, while strengthening our skills and attitudes. It also supports organisational learning and evaluation processes. Activities in this area include capacity building of staff in KS tools, methods and principles, the engagement with communities of KS practitioners, like KM4Dev (www.km4dev.org), and the monitoring and evaluation of participatory communications efforts.

- Power-complexity: By incorporating KS tools and methods into strategic planning and change processes, management can promote involvement, buy-in and follow-up action by both staff and stakeholders. Examples are the use of online and face-to-face tools and methods, like e-discussions, and participatory staff meetings; and also innovative communication products that socialise those processes, like video or blogs.

- Power-effectiveness: Systematic KS can make an organisation's day-to-day business more effective, visible and transparent. Under systematic KS we understand the availability of resources and products that staff can use or replicate, like a KS toolkit, the systematic use of wikis for research data management or a corporate interactive website.

The rationale for capacity strengthening in KS is clearly related to the objective of empowerment of CGIAR staff and their partners. As mentioned above, and from the outset of the project in 2004, the project team decided to concentrate on practical learning among staff and partners and experimentation with KS approaches, rather than designing a comprehensive KS strategy and advocating for its implementation through management.

Figure 1   KS project's planning and action framework (see online version for colours)
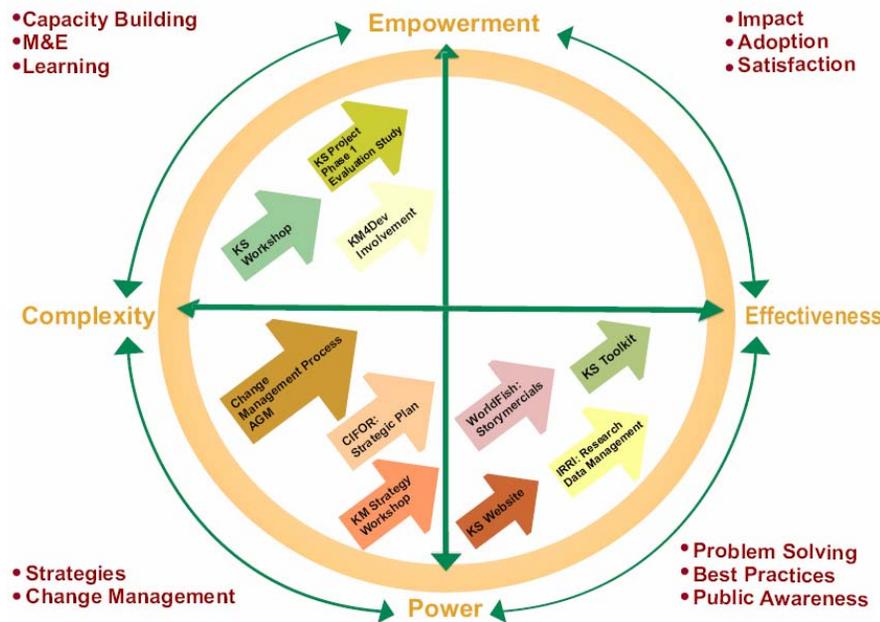
1.2   *Two workshops*

During 2008, the institutional KS project staged two workshops, one jointly with FAO. The aim was to scale up use of work-related KS practices, tools and principles by CGIAR staff and their research partners. Phase 1 of the first workshop was held online from 24 March to 18 April 2008. Phase 2 was a face-to-face meeting in May in Addis Ababa, Ethiopia. And Phase 3 consisted of online peer coaching that extended to the latter quarter of 2008. The second KS workshop followed a similar pattern, with the face-to-face meeting being held in Rome in October 2008.

We now look at the issue of workshop design: principles, challenges and feedback from the actual learning events.

2 Designing a KS workshop by N. White

When you deeply believe in the value and power of sharing knowledge to help people achieve their goals, it is easy to get excited about designing an online workshop for KS. It is even more enticing when you know there will be a three-day face-to-face meeting following that workshop. A dream project. Thus began my journey as a member of the KS workshop design and facilitation team. I was 'motivated'.

But my motivation went deeper than beliefs. It also drew on my experience applying KS tools and methods, and knowing that much of what I have learned has been through KS in one of my key communities of practice, the KM for development group, or KM4Dev. It was no accident that all of us on the team were also KM4Dev members.

2.1 Design challenges and context

Going into the design process, we knew we had challenges to face. Online tools are still fairly new for many people in the CGIAR and in many locations there are problems of internet access and electrical power supply. An online workshop, to be sure, cannot serve everyone. Nevertheless, we wanted to make it as accessible as possible, to serve the diverse needs of participants working on a range of agricultural research and communications issues, and to cover a lot of KS territory. We are always too ambitious!

It is important to understand the context for a learning design. Our beliefs and core learning model, primarily a constructivist model, acknowledge that people learn in different ways and they learn by doing, not just by receiving information or content. We also believe there is much existing knowledge that can be shared amongst peers to support their learning, what might be called a community of practice (CoP) model. This model posits that people learn together not just by having access to didactic content, but by applying that content to their real work and discussing amongst themselves what they are learning. Despite the power of these models, people are not always prepared for self-directed learning. Many of the research organisations and national cultures represented by our target audience may be more used to linear, instructor-directed learning. When people pay for a workshop, they expect something to be 'delivered'. Then they discover they are responsible for their own learning.

Thus began our design adventure. With our time limitations in mind, we went through a number of design iterations, with feedback from other CGIAR staff. We had access to wide-ranging base content, from the FAO-spearheaded information management resource kit (IMARK), the KM4Dev wiki, and the emerging KS toolkit (Toomey, 2008), which was to become an integral part of the workshop content and process. Because we wanted additional voices and the audio modality, we created short audio podcast interviews with colleagues on workshop topics. To support the 'onramp' to new technologies, we also created short visual tutorials, or webcasts, about the tools we would be using.

2.2   Public versus private work spaces

We designed a flexible agenda to be delivered via the open source e-learning platform, Moodle, and a telephone conference line for synchronous meetings. The KS toolkit wiki served as a content repository. While the Moodle space was private, creating a safe place for participant learning, the wiki was public to ensure easy sharing of KS tools and methods within participants' workplaces and networks. We also posted to the public ICT-KM blog as another way to share what we learned about the process of designing and staging the workshop.

This blending of public and private venues was to support open access and at the same create places where people could learn, make mistakes and learn from those mistakes without fear of scrutiny by outsiders (or a boss!). These 'boundary' issues reflect the real world challenges participants face in KS every day. They also raise the deeper issue of global public goods and the inherent responsibility to pursue broader goals when working in development. These often conflict with organisational or even personal goals, especially in science where the pressure to 'publish or perish' can block KS, even when that knowledge might contribute to the core goal of feeding the world. These are real, practical problems that any learning community must face. Thinking about how we use tools and processes to productively 'live' with these tensions is important (Wenger et al., 2009).

2.3   Iteration and learning for better design

Workshop design before a 'first run' is simply a launch pad. Once we began the workshop, the design team stayed in close contact to adjust the agenda and flow of activities. We knew we had too much content; so, as we progressed, we trimmed and adjusted. While we asked every participant to come to the workshop with a real-life work project and we surveyed them to find out their needs, it was not until we engaged them in conversation and got to know them that we could adjust meaningfully. We tried to take notes as we went along, and these were used in the second iteration of the workshop.

Doing two workshops one after the other is a fabulous opportunity because one can apply the learning effectively. The second workshop took less time to design, allowing us to focus our energy on bringing in and supporting new facilitators. So, in Workshop 1 we built design capacity, and in Workshop 2 we built facilitator capacity.

2.4   The power of the face-to-face

The luxury of a face-to-face meeting following the online portion of the workshop also had significant implications for the iterative design of the online portion. Casual conversations with participants led to additional insights, particularly into their experience of the online environment, their use of emails and/or the website, where they found resonance with the agenda, and where they felt lost or disinterested. Through the camaraderie of a face-to-face meeting, we build trust and learn more deeply in a short period of time. I believe these personal conversations gave us a better understanding of the challenges facing participants, and therefore of the challenges in designing a more relevant learning experience.

In summary, the process of shared creation – learning while doing, as designers, facilitators and participants – combined with the closeness of the face-to-face encounter, created a wonderful design environment.

3 Five case studies: participants' stories

In the following five case studies, participants of the first workshop describe in their own words their reasons for participating in the workshop, their personal learning trajectories, and applications of new skills.

3.1 Sharing knowledge at the grass roots: ICARDA's farmers' conference by A. Galié and B. Hack

Good timing: a need fulfilled

Our interest in the KS workshop started after Alessandra's supervisor at ICARDA forwarded us the workshop announcement. At that time we were about to organise a farmers' conference supported by the KS in research (KSinR) initiative of the CGIAR's ICT-KM Program. The conference was meant as an opportunity for farmers from various countries to meet and exchange their knowledge with other farmers and researchers alike.

The challenge was to provide a KS environment and the tools appropriate to facilitate communication across countries, cultures, genders and experiences. We were particularly interested in farmers expressing their tacit knowledge and discussing the issues most important to them. Also, we were looking for innovative and effective ways of involving the participants and facilitators from each country in conference preparations. Finally, Alessandra was keenly interested in gender-sensitive approaches to KS – approaches important in her research on gender-differentiated knowledge in agronomic management.

Training applied: five tools and methods

The KS workshop provided us with new tools that we explored during all three phases of the farmers' conference – preparation, actual meeting and follow-up – and adopted immediately after its completion. The tools were a wiki, storytelling, a food and seed fair, a network mapping exercise, and video stories shared via mobile phones. Our experiences with these are briefly described below.

For the preparation phase of the farmers' conference, Ben created a 'wiki' to track and collect feedback on logistical work, development of the conference concept, methods and tools. This was open to all participants but used mainly by the organisers. It served as a shared space for online collaboration and updating of information across countries and time zones.

We chose storytelling as the overall framework and encouraged farmers to share their wisdom in this way during the conference. Storytelling proved an effective method to facilitate the sharing of knowledge both in terms of format and content. It reflects a format very close to the way farmers usually share their knowledge, at the same time allowing discussion of topics that might otherwise be considered too trivial for a conference.

The conference's 'food and seed fair' provided a space for lively discussion on local crop varieties and their uses and for the exchange of seeds and related knowledge.

A 'network mapping' exercise was used to explain the concept of a network and to give participants a concrete image of their own connections and information flows, and the process of developing relationships during the conference.

Finally, for the follow-up stage of the conference we relied on the production of one-minute 'video stories' from the conference and their 'viral' dissemination through participants' 'mobile phones' as a way to document and share the outputs. Together with traditional printed materials, the video stories were circulated at the conference and made available for easy download from the conference website. Viral dissemination, a term borrowed from marketing, here refers to the notion of giving users control over the distribution of the stories.

It is a challenge to monitor the spreading of conference stories via mobile phones. Beyond asking our immediate clients for feedback, we have little evidence that these stories are actually travelling from person to person in the way we intended them to.

For farmers, poor or no access to technology can be a barrier to using KS tools. During the farmers' conference we realised that older people, women and the poorest have little access to mobile phones and web tools. We tried to use the conference as an opportunity to improve access to these technologies by supporting their purchase or the sharing, at household and community level. An evaluation of this effort is currently under way and is expected to be published.

All the methods and tools we explored during the KS workshop and the farmers' conference have become part of our working methodology.

3.2   Engaging stakeholders in institutional reform of a global research network by F. Tateossian

A time for organisational reform

The CGIAR embarked on a process of profound institutional reform at the beginning of 2008. Called the Change Management Initiative, it aimed to set out a new vision for the overall research system, along with new structures for governance, financing and partnerships. As a member of the CGIAR Secretariat's communications team, I was called on to help design a strategy for engaging stakeholders in the reform process. Among the different objectives of the engagement strategy, what seemed important to me was to find an effective tool to solicit that input and feedback on the initiative online, and enable stakeholders to influence final decisions on the direction of the CGIAR.

The virtual workshop

The virtual component of the workshop turned out to be critical for understanding how we would work together. I took enough time to test Moodle, the virtual workshop platform, and explore its various possibilities. I was amazed at how well it encouraged learning.

The network mapping, one of the first exercises, was an opportunity for me to involve my office colleagues in the workshop process. I set up a meeting, and we all brainstormed about how CGIAR networks function. We started to map the CGIAR communications CoP, with in the intention of informing this group and getting its

members engaged in the change process. The underlying logic was that if CGIAR communications officers bought the idea of sharing and exchanging information and opinions on change management, the news would spread, encouraging all staff, donors and partners to join the experiment.

The face-to-face component

This part of the workshop was important to me. With the spread of virtual social tools, we tend to forget the richness of direct encounters. In those moments we exchange 'improvised' knowledge – insights that escape us when we are busy writing things down. Brainstorming and discussion helped me engage with this new community of knowledge-sharing practitioners.

This was also the perfect opportunity to see how it all comes together. My only concern was the lack of hand-on sessions whereby all of us could sit together in front of our computers at the same time and experiment with these tools.

Follow-up: applying lessons learned

After the workshop, and with invaluable help from one of the workshop participants, I was able to set up a blog and a virtual forum for the change management initiative. Also, I was able to create a shared calendar on all of the initiative's activities. All three tools were aimed at better engaging stakeholders, giving them a way to provide concrete input to, and feedback on, the change process. Discussion papers were put up on the virtual forum for comments, and the change management blog became a useful tool for commenting on the process.

A major obstacle was to get stakeholders to use these feedback channels so that we could then incorporate their views into the change management plan. Major questions were raised, such as: Was there a real demand among stakeholders for the option to give feedback?

At the beginning it was indeed frustrating to monitor a non-participatory blog and an empty forum on the vital issue of institutional change in the CGIAR. But then, little by little, participation began to pick up. What was happening? Firstly, we made a big effort to communicate the existence of the forum and blog. Secondly, we began to rely on trusted champions among the different groups of stakeholders to get the message out. Thanks to them, scientists in research centres, donors in meetings, and partners in the field began to realise the importance of being part of the change management process and of sharing their thoughts to help effect the change. In May 2008, 53 visits to the blog were recorded. By September, the cumulative number was 2,211, and by the end of 2008, the tally of visits had reached 8,220.

As I had seen during the KS workshop itself, it was clear to me that virtual tools are difficult to use if they don't come equipped with a human component. Face-to-face dialogue is essential to setting ideas and plans in motion and to strengthening KS.

3.3   Learning to build a CoP for environmental scientists by V. Meadu

Why participate? A perfect match

In February 2008, I was about to embark on a new project whose overall goal was to build and maintain a vibrant CoP on the topic of payments for environmental services in Africa and beyond. Although I knew in theory what I wanted to do, I was unfamiliar with the specific term 'CoP'. In fact, I felt daunted by this concept. The KS workshop advertised that it could help people set up a CoP. From that moment I was in!

A steep learning curve, but with links to daily work

As I learned about theories, concepts and tools during the workshop, I also began to strategise about the best approaches for using them to build a CoP. It was a steep learning curve, but also very exciting, with many practical lessons along the way. However, the first few weeks of the workshop were so full of new information that it was difficult to focus on specific lessons useful in my own work. I discovered that most participants felt this way.

   On a few occasions, I brought the virtual learning into our office in Nairobi, engaging my colleagues in my weekly course tasks. I began to find ways to make strong links between these activities and real project needs. For example, the network mapping exercise was done with some input from my supervisor and colleagues and flowed perfectly from a previous attempt to identify stakeholders and institutional relationships.

The face-to-face meeting: learning by doing

The face-to-face meeting helped me realise just how important this work is, how many great resources, both human and technological, are available to facilitate good KS, and where I fit into the process – as a contributor and student. More importantly, I was able to narrow my focus to start to plan a few components that would feed into my larger role as a CoP facilitator. I learned many practical lessons about building websites that can be used as a primary tool for a CoP, and how to make the most of tools like RSS and social bookmarking. I also learned about the iteration processes my peers had gone through when building websites.

After the workshop: practical applications

The workshop has served as a catalyst in my own work. I have applied KS techniques to a number of projects and continue to do so, working hard to keep up the momentum. Here are two key examples:

- Revamping the news page for the ASB partnership for the tropical forest margins (www.asb.cgiar.org/blog). This was originally a rather static and rarely updated news page. I worked with a website developer to replace it with a Wordpress blog which has an RSS stream and can be searched by category and receive comments. It is much more flexible than the previous site. I work closely with our scientists to develop one or two blog reflections each month, in addition to news items.

- Training scientists to use social bookmarking to share and disseminate important articles and publications. The bookmarks at http://delicious.com/asb_partnership

form the backbone of the ASB blog. When a scientist comes across an important research finding or story, instead of e-mailing it to everyone he or she bookmarks it, and it feeds directly into our blog.

Besides these specific activities, I find I am sharing my knowledge about KS with many colleagues and have showcased our KS innovations to other staff and senior leadership in our organisation. These activities include encouraging and training scientists to write blog postings, helping staff to set up RSS feed aggregators to quickly track relevant news and research, and sharing usage data that shows that since the launch of our blog, our publications downloads have significantly increased.

Obstacles to implementation

While the support of my supervisor allowed me a great deal of flexibility and freedom in trying and applying new tools, I had no 'local' experience to build on. This is because blogs and other similar tools had never been introduced at my institute. Thankfully, I had many strong examples from other CG organisations to learn from.

The most pervasive challenge related to technological capacity and infrastructure. Connectivity is generally slow in Nairobi and I had to test a number of applications to make sure they could be used in a low-bandwidth context. Rather than jumping into new high-speed KS technologies, we are forced to find ones that are appropriate and adapted or adaptable to the local context.

3.4   A candle and a laptop: Sharing best practices in gene bank management by M.A. Jorge

Preparing for a new job

It was in the latter part of 2007 that I first heard about KS methods. The occasion was a Google search to learn about KS since I was preparing a presentation for a job I was applying for. The announcement of the KS workshop mentioning wikis captured my attention.

I eventually got the job and had a major challenge ahead of me: to develop and populate a knowledge base about best practices for gene bank management. I already had experience with seed and clonal crops, the agricultural science part of the job. But I knew little about the 'new' ways to disseminate knowledge (the IT and KS components) – namely creating a structure for an interactive website, as well as collecting, editing and publishing useful data.

Obstacles: heavy reading, time conflicts, intermittent connectivity

The full and immediate support of my supervisors helped me make up my mind to commit the necessary time. But I still had mixed feelings. On the one hand, I was immediately attracted by the highly useful and easy-to-understand information about web tools. On the other, I was overwhelmed by the number of possibilities presented by the course management system. Due to time constraints, I concentrated my initial learning on wikis, blogs, D-groups and Google Docs.

Another difficulty was connectivity. During the workshop period we often lost our internet connections in our offices in Ethiopia, which made my commitment to the course

extra difficult. Those obstacles, though, inspired the title of the blog I created as soon as I had learned about blogging and become passionate about it: a candle and a laptop.

The Moodle environment and the ease with which we could ask questions and discuss the various issues with people doing the same type of work I do were of immense help. The fact I was not alone in my lack of knowledge increased my confidence to ask more and not be afraid of the learning process.

The meeting in Ethiopia was useful in making me aware of other tools and methods I never had paid attention to. These include Delicious, RSS and Facebook. I also learned about other tools and methods, not necessarily web-based, that became extremely useful later on – such as network mapping and SWOT analysis.

Back to reality: tempering expectations for change

Now, several months after my KS learning experience, I am not as enthusiastic about it as I was in the beginning. Lack of participation when we set up a wiki and lack of feedback when we request comments on Google Docs have restrained that initial passion. Local technical failures of the internet and the loss of a few documents did not help either. I have also learned that new tools are no substitute for a fundamental willingness to share knowledge which must already be present if people are to put new KS tools and methods to productive use.

Direct benefits to my gene bank work

All my archives from gene bank management web searches are now organised with the help of Delicious bookmarking. This makes my work much easier whenever I look for a particular file to use or share. And although I now have a much better grasp of Joomla! (an open source content management system for web and intranet publishing), I still need to learn more.

I have lost the fear of contributing to group discussions and commenting on blogs. I can now easily participate in interesting discussions. I have also learned a lot about wikis and I am incorporating their use in the daily collection of information for gene bank management.

I wish to share my newfound knowledge. Perhaps my colleagues and I can still make a difference if we target small changes at the right time and do not try to rush them. We are planning to promote web tools in an informal way within our institute. I cannot now imagine living without wikis, blogs or Delicious bookmarking. Those have become part of my way of learning and communicating and will stay with me – at least until better ones come along.

3.5   *From machines and databases to people and their needs: Experiences from FAO by G. Salokhe*

In late 2007, I started working on KM activities at FAO. My main tasks until then had revolved around classical information management in agriculture. So the KS workshop came as a welcome opportunity to get deeper into a topic I had studied but not worked directly in.

The contents of the workshop related not only directly to my work but also to something I believe in completely: team work, sharing, learning and adapting to ensure

quality services and products for our member states. I now feel I am moving from facilitating sharing between machines (or databases) to facilitating sharing between people.

Although I had a lot of experience with online tools, I did not have any idea of KS methods to improve face-to-face meetings, and so I looked forward to the three-day gathering in Ethiopia. That event opened my eyes for the first time to the possibility of participating in informative meetings without the use of a single PowerPoint presentation! The many KS tools and methods I experienced where documented in the KS toolkit. Instead of reinventing the wheel for FAO, I discussed with the ICT-KM Program team the possibility of collaborating with them. The results were positive and FAO is now a KS toolkit partner! The KS workshop also had a major spin-off for me personally: I served as organiser and facilitator of the second workshop.

Second KS workshop

My positive experience in the first KS workshop inspired me to ask my supervisor back in Rome whether we could do something similar for FAO staff. The answer was positive and highly supportive, resulting in the second KS workshop run by FAO in late 2008 in collaboration with the CGIAR's ICT-KM Program. In the true spirit of sharing, the CGIAR shared its course outline and content. Reflecting on the first workshop, the team made several adjustments. A week '0' was added to the schedule, allowing participants to familiarise themselves with the Moodle platform. The homepage of the Moodle space was also reorganised to make it lighter, and we reworked the agenda to accommodate participant feedback.

From the facilitator's point of view

Here are few key observations from my perspective as a workshop facilitator.

Conceptual clarity is essential. The notions of 'information' and 'knowledge' are not easy to work with. Throughout the introductions and during the teleconferences, there was a tendency among participants to mix them up. One of my favourite explanations of these concepts is the metaphor of a cake, provided by David Gurteen (1999) in his paper 'Creating a knowledge sharing culture'.

A list of the cake's molecular components is 'data', the ingredients are 'information', and the recipe is explicit 'knowledge'. A knowledgeable cook who didn't have a particular ingredient but knew its purpose might be able to find an appropriate substitute. This kind of knowledge is important as it allows for creativity.

By themselves, tools are not the solution. During the introductions, workshop participants described their current activities, such as using and maintaining websites, blogs and wikis for KS. An often-heard comment was, 'we provided the tools but no one participates'. As in other domains, it is best to provide tools only when there is a clear need and demand for them. One way to more fully involve your audience – that is, the group you expect to apply these tools – is to promote learning by doing.

A common concern among workshop participants was their organisational culture and how to make people see the value of sharing their knowledge. I now hope to investigate what cultural changes are needed in our organisational environments – and how we might go about changing the culture – to create a positive KS environment. A recent independent external evaluation of FAO highlighted the issue of 'Silo culture'. It is my

view that learning about KS tools and methods is a powerful means of shifting an organisation away from insular attitudes and behaviour to a more open and collaborative culture.

4   Lessons

A total of about 80 people, from 13 CGIAR centres and eight partner organisations, attended the two KS workshops in 2008. During these two capacity building events, participants learned how to apply KS concepts and approaches and to interact effectively with colleagues and research partners in teams, networks or communities. A pool of facilitators, drawing on these participants among others, is currently being created for future events.

Here are key lessons learnt and recommendations related to web-based learning, distilled from the workshop evaluation (Staiger-Rivas et al., 2008), the five case studies above, and the reflections of the organisers and facilitators:

- *The power of the young to convert senior staff:* Junior staff has fewer professional relationships than senior staff and veteran managers but are more inclined to use online KS tools. Decision makers, being fewer in number, are just the 'tip of the iceberg'. They are highly visible and their networks are well established. Junior staff should be encouraged to use KS tools and methods. It is a win-win situation: they spread the word and at the same time make valuable connections. This requires organisations to have greater trust in horizontal structures and, from the IT perspective, to open up their firewalls to allow a more strategic use of online tools.

- *The power of face-to-face encounters in web-based learning:* Our experience reinforced what we already knew: face-to-face meetings are effective at creating long-lasting bonds among people. They support inter-organisational relationships and foster collaboration. For junior staff especially, travel to such meetings is a stimulus, even an 'eye-opener', engendering excitement and commitment to their institution's mission.

- *The power of diversity:* The wide mix of professional and organisational backgrounds and experience of the participants, as well as the diversity of learning tools used during the workshops, were enriching. They supported the cross-fertilisation of ideas and strengthened networking. The mix of media – conference calls, podcasts, the Moodle platform, chats – allowed both synchronous and asynchronous participation in both high- and low-tech environments.

- *The power of facilitation to cement ties:* Emerging communities need facilitators to help participants establish and solidify relationships. In this case the dedication of the facilitation team contributed to the success of the workshop. Facilitators provided an interactive and open learning environment, which encouraged participants to take a lead role in some activities. Some participants became facilitators or mentors in the second workshop.

- *The power of shared resources:* The link between the workshop and the KS toolkit as the primary resource was appreciated and useful for the participants.

5 Concluding notes and epilogue

The success of the two workshops led the CGIAR to stage an online event on social media for senior communications staff in early 2009. This was followed by a face-to-face meeting on strategic communications for the CGIAR. The farmers' conference in Syria has been the subject of articles and presentations. These examples show that our project objective of empowerment was achieved.

The recent literature on the social effects of the internet is replete with stories showing that 'what we are witnessing today is a difference in the degree of sharing so large it becomes a difference in kind' [Shirky, (2008), p.149]. In this article, we have provided, through a few case studies of individual learning, anecdotal evidence of this social transformation.

The next challenge is for us to pursue our efforts at senior management level. While we were reluctant in 2004 to set up ambitious KS strategies, we now sense that the time is right to build a solid strategy based on our four-year-long long grassroots efforts and lessons learned. Recently, at the CGIAR and FAO senior management level, real interest in understanding the scope of participatory face-to-face and online communication has emerged. To achieve this goal we certainly will need to measure and prove impact beyond what we can conclude from anecdotal evidence. This requirement is well captured in a recent headline in The Economist magazine 'Twenty years of world wide web… what's the score?' (The Economist, 2009).

This article was written collectively on a private wiki space by the eight co-authors.

References

Binney, D. (2001) 'The knowledge management spectrum', *Journal of Knowledge Management*, Vol. 5, No. 1, pp.33–42, MCB University Press, Bradford, UK.

CIDA (2003) *Knowledge Sharing: Methods, Meetings and Tools*, p.32, CIDA's Knowledge Management Secretariat, Canadian International Development Agency, Gatineau, Canada.

Collison, C. and Parcell, G. (2004) *Learning to Fly: Practical Knowledge Management from Leading and Learning Organizations*, p.312, Capstone Publishing Ltd., Capstone, Chichester, UK.

Davenport, T. and Prusak, L. (2000) *Working Knowledge: How Organizations Manage What They Know*. Harvard Business School Press, Boston.

Douthwaite, B., Alvarez, S., Thiele, G. and Mackay, R. (2008) 'Participatory impact pathways analysis: a practical method for project planning and evaluation', *ILAC Brief 17*, Institutional Learning and Change Initiative, Bioversity International, Rome.

Gurteen, D. (1999) 'Creating a knowledge sharing culture', *Knowledge Management Magazine*, Vol. 2, No. 5, February 1999, available at
http://technologyforcommunities.com/ (accessed on 05/05/09).

http://www.gurteen.com/gurteen/gurteen.nsf/id/ksculture (Accessed on 5/05/09).

http://www.sc-eco.univ-nantes.fr/~tvallee/memoire/pratique/KNOWLEDGE%20MANAGEMENT%20AS%20A%20DOUGHNUT.pdf (accessed on 05/05/09).

Pasteur, K. (2006) 'Learning for development', in R. Eyben (Ed.): *Relationships for Aid,* Earthscan, London.

Reason, P. and McArdle, K.L. (2007) 'Action research and organisation development', in T. Cummings (Ed.): *Handbook of Organisation Development*, Sage Publications, Thousand Oaks, CA.

Russell, N., Staiger, S., Hewlitt, A., Horton, D. and Toomey, G. (2005) 'Major meetings as entry points for knowledge sharing: a case from the Consultative Group on International Agricultural Research', *KM4D Journal*, Vol. 1, No. 2, pp.47–60.

Shirky, C. (2008) *Here Comes Everybody: The Power of Organizing Without Organizations*, The Penguin Press, New York.

Staiger, S. (2008) 'Institutional knowledge sharing for organizational change', International Center for Tropical Agriculture, Cali, Colombia.

Staiger-Rivas, S., White, N., Lamoureux, L. and Kosina, P. (2008) 'Report on the online Phase 1 of the knowledge sharing workshop collaboration for excellence: opportunities for discovering, understanding, and applying innovative knowledge-sharing approaches for impact, 24 March to 18 April', *Executive Summary, Workshop Results and Evaluation*, ICT-KM Program of the Consultative Group on International Agricultural Research, Cali, Colombia, available at http://www.ks-cgiar.org/images/stories/pdf/ks_workshopp1_report_full.pdf (accessed on 05/05/09).

The Economist (2009) 'Twenty years of the world wide web… what's the score?', March 12, 2009 edition, p.83, The Economist Group, London.

Toomey, G. (2008) 'Tools and methods for sharing knowledge: The CGIAR's wiki approach', June 2008 feature article on web site of the CGIAR KS project, available at http://www.ks-cgiar.org/index.php?option=com_docman&task=doc_download&gid=65&Itemid=99999999 (accessed on 05/05/09).

Wenger, E. (2006) 'Knowledge management as a doughnut: Shaping your knowledge strategy through communities of practice', *Ivey Business Journal*, January–February 2004, available at

Wenger, E., White, N. and Smith, J. (2009) *Digital Habitats: Stewarding Technology for Communities*, Manuscript submitted for publication. For an overview of the book's contents, see http://technologyforcommunities.com/ [Accessed 05/05/09].