

# Tools and Methods for Sharing Knowledge: The CGIAR's Wiki Approach

Written by Gerry Toomey\*

For knowledge creators, brokers, and users alike, it's perhaps stating the obvious to declare that we live in an increasingly interconnected and complex world. While this modern truism has some annoying consequences—information overload being among the most pervasive—we shouldn't lose sight of the enormous opportunities on offer. At least that's part of the thinking that drives the Information and Communications Technology and Knowledge Management (ICT-KM) Program of the Consultative Group on International Agricultural Research (CGIAR).

The Institutional Knowledge Sharing (KS) Project of this Program together with its CGIAR Center partners has been experimenting with a range of KS tools and methods over the past five years and has recently been assembling these and many others into a toolkit (<http://kstoolkit.wikis.cgiar.org>). This evolving resource—continually updated, edited, expanded, and critiqued in wiki fashion—is targeted mainly on scientists, research support teams, and administrators in the 15 international centers of the CGIAR. But it also serves their partner organizations, as well as development organizations working in areas other than agriculture. And it benefits from their diverse feedback too.

Science has traditionally relied on a few key vehicles for sharing and validating new knowledge. The most important are experiment replication, the publication of research results in peer reviewed journals, literature searches, and formal and informal communications at conferences, workshops, and other meetings. In addition, the patent system serves as a complementary knowledge broker in instances where research spawns technical innovation. With such longstanding institutions already in place, why is there a need for new avenues to share knowledge? The answer to that question is surprisingly complex; but a few key reasons stand out.

## Coping with the flow

The first and most obvious reason is information overload as a result of the enormous growth in global information production, compared with, say, the growth of economies, human populations, or energy and food production and consumption.

## Key Facts and Features of the KS Toolkit

- The Toolkit is located at <http://kstoolkit.wikis.cgiar.org>. This is a wiki, a highly interactive and collaborative website. Registered users can add tools and methods, edit existing pages, insert comments and anecdotes, or even list themselves as contacts if they have had experience with a particular tool or method.
- As of June 2008, the Toolkit contained 58 tools and methods for sharing knowledge.
- The term 'tools' refers to web-based software and offline physical tools that can be used with a variety of methods. Some examples: blogs, wikis, news feeds, instant messengers, tagging, podcasting.
- Methods' refers to group processes to help people interact effectively with each other, whether online or offline. Some examples: Appreciative Inquiry, Storytelling, Knowledge Fairs, Open Space.
- To help users wade through the specialized jargon of knowledge sharing, the KS Toolkit links to four glossaries: <http://kstoolkit.wikis.cgiar.org/Glossaries>.
- The KS Toolkit website is designed to respond to users' specific needs. Users can search for appropriate tools and methods by browsing the context page where they can define the context in which they are working and the knowledge sharing goals they wish to achieve, or by using the key words (tags). Tags create an entry point and link to tools and methods that may be suitable for a particular user's circumstances.
- While anyone may use the contents of the Toolkit, it is targeted on professionals working in international development agencies, with a special emphasis on those engaged in agriculture and agricultural research.
- The KS Project blog has a section at <http://ictkm.wordpress.com/category/ks-toolkit/> where users discuss the use of tools and toolkit updates.

Information and knowledge, of course, aren't synonymous; rather, one can be thought of as the raw material of the other. But, using raw information flows as a crude yardstick, we can say the information revolution has been punctuated by an explosion of knowledge, much of it emanating from the sciences, particularly the life sciences. There are only so many hours in a day to absorb new things. If today's knowledge workers are to make good use of the ongoing intellectual bonanza, they must become increasingly selective and efficient in sorting through 'new leads', in separating the wheat from the chaff. The CGIAR KS Toolkit, particularly the Internet-based tools it has assembled from many sources, helps fill that gap.

François Stepman is a communications specialist with the Forum on Agricultural Research in Africa (FARA), based in Accra, Ghana. He recently participated in a KS workshop, which was organized by the CGIAR KS Project as a way to coalesce a multidisciplinary user group

around KS issues. In his day-to-day work as a communicator, Stepman is keen to demonstrate to African researchers how the use of a few carefully chosen KS tools, far from adding to their workload, can help them cope with the rising tide of scientific information—turning a burden into an opportunity.

*"When you talk about information and communications, their reaction is often, 'No, we are already facing too much communication. Don't invite us to join another network as we'll have an additional information flow.' So we have to be very hygienic."* The first task, adds Stepman, is to help researchers identify their information needs and organize how that information comes to them.

One example is that scientists can, like any other Internet user, streamline incoming information flow with the help of news feeds. (The generic name, RSS, refers to a family of web feed formats used to publish frequently updated digital content.) Many websites now offer this feature, which notifies subscribers when web pages—blogs, podcasts, newsletters, and so on—are updated or content otherwise changes. *"This is a big revelation to many of our agricultural scientists,"* says Stepman.

Internet users can also design their own iGoogle page, which allows newsfeeds, Gmail (Google e-mail) messages, and other selected information to be organized in a single location for a rapid overview. *"Because the majority of these scientists are complaining of overkill,"* says Stepman, *"their reaction is, 'Oh, so this will make the information inflow much more digestible for me'."* Similarly, Google

Alerts can help busy scientists stay abreast of developments in their discipline. With this service, the user is alerted via an e-mail message of top-ranked news stories, blog posts, or other fresh website items that match a set of search terms chosen by the user. Most of this information will probably not be of any use to the scientist, admits Stepman. *"But for every weekly e-mail alert you get from Google, there may be three or four very interesting links, what I call 'quick wins'."*

Much can also be done on the knowledge *outflow* side where, at least in the case of African agricultural science, the problem is not one of too much information to cope with, according to Stepman, but rather too low a profile on the World Wide Web. With his help, FARA recently created an in-house video blogging capacity which has since been described in the CGIAR Toolkit (<http://kstoolkit.wikis.cgiar.org/Overview+of+the+FARA+video+blogs>).

Each blog is an on-camera commentary by an African, three to four minutes long, on a topical agricultural theme. As of the last week of May, FARA had produced 25 such blogs using a digital camera and Microsoft editing software. These short videos have proved highly popular with visitors to the FARA Secretariat's blog. Viewings of the top 10 FARA productions, most of which were posted in the first two weeks of March, numbered about 1,900 by the end of May.

Perhaps FARA's most ambitious KS project, currently on the drawing board, is the creation of a technical question-and-answer service for African farmers using mobile phones. FARA expects to work in partnership with other organizations on this project, bringing together expertise in agricultural extension, voice recognition technology, and linguistics and terminology, for presentation of information in multiple African languages.

### **The changing face of research**

A second rationale for the CGIAR's KS Toolkit is that agricultural research methodologies, especially in developing countries, have changed dramatically in recent years. In the late 1980s and early 1990s, low adoption rates of seemingly useful agricultural technologies led research managers, sometimes under pressure of criticism from donor agencies, nongovernmental organizations, and community groups, to rethink their strategies. They tried diverse approaches to engaging farmers and other end users and stakeholders in the research process. The watchwords of this transition were 'relevance', 'client orientation', and 'participation'; indeed, participatory approaches, especially in plant breeding, have since entered the mainstream of agricultural science.

But end users and community leaders aren't research scientists, and they don't read peer-reviewed journals. An effective two-way

flow of knowledge between conventional researchers and diverse stakeholder groups demands much more flexibility and versatility than conventional methods of scientific communication can provide. Even within agricultural research communities, there has been discontent in recent years over the heavy reliance on these methods (the Oh-Not-Another-PowerPoint! syndrome).

Components of the KS toolkit, some of which have colorful names like World Café, Peer Assist, Fishbowl, Knowledge Fair, Open Space, and River of Life, can be considered new complements to conventional, more passive forms of knowledge sharing.

*“KS methods aren't presented as a substitute for the scientific method and peer review,”* explains communications consultant and facilitator Nancy White, of Full Circle Associates. White helped the CGIAR's KS Project to set up the KS toolkit on an interactive website (a wiki) and also served as one of three resource people for the CGIAR-convened KS

workshop that was attended by Stepman and 20 other participants. *“On the contrary, these methods are meant as ways of linking the scientific process to the world of application. The habits of farmers in the field, extension agents, and policy makers do not necessarily reflect the scientific method. Yet these people are all participants in the application of what scientists discover. An important part of knowledge sharing in the sciences is to inform scientists about the needs and perceptions of the end users of technology.”*

Simone Staiger-Rivas, who leads the Institutional KS subproject for the CGIAR and has worked closely with White, adds that the world of agricultural research has changed not only with respect to the involvement of end users, but also in other key institutional arrangements. Most notably, CGIAR centers increasingly work in partnership with other R&D organizations. Sometimes this involves large consortia such as global or regional “Challenge Programs” and “Systemwide Programs” (system being a reference to the research centers funded by the CGIAR). In other instances, the alliance may be with a single organization such as an NGO or an advanced research institute. Such varied arrangements often mean that team members are located in different countries, speak different languages, and work in different organizational cultures. The KS Toolkit provides a range of options for bridging such physical, linguistic, and cultural divides.



The benefits of interorganizational partnerships enjoyed by research scientists have not been lost on the KS Project. Under the guidance of Staiger-Rivas, the project has emulated that CGIAR strategy, casting a wide

net as it compiles, documents, and seeks feedback on components of the KS Toolkit.

*“It's more efficient to target the toolkit broadly because the feedback you get from individuals and organizations outside the CG system really helps to improve these resources and highlight them within the system,”* says Staiger-Rivas, who is based at the International Center for Tropical Agriculture in Cali, Colombia. *“So, while we are helping people outside the CG centers to do their work better, they are also feeding back positively into the CG.”* Staiger-Rivas adds that the inclusive approach also reflects limited resources: *“We don't have a large number of people in the CG who specialize in knowledge sharing issues. To do all our KS development completely within the confines of the CG would be a lot of work for a very small number of people.”*

Preliminary monitoring of the KS Project website suggests that the strategy of broadly targeting the KS Toolkit is having a significant impact. Featuring 58 tools and methods, the KS Toolkit was launched in mid-March. By the end of its first two months, it had been viewed 20,000 times, making it by far the most popular resource linked with the KS Project website.

Feedback from several CGIAR and non-CGIAR users suggest they are happy to have access to the KS Toolkit. One KS specialist, at the International Labour Organisation (ILO) of the United Nations, wrote to Staiger-Rivas: *“Thank you so much for sharing this excellent and so comprehensive compilation of KS tools! It will be so very helpful for me, as I am building a KS strategy for ILO's Youth Employment Programme.”*

### **Tools, tools and more tools....**

A third rationale for development of the tools component of the KS Toolkit is reminiscent of the reply given by the mountaineer who is asked 'Why do you want to climb Everest?' Response: 'Because it's there.' The very technologies that have triggered the dramatic growth of scientific knowledge in recent decades simultaneously offer some technical options for coping with that growth, for sharing the newfound intellectual wealth. When technological opportunity knocks, one is naturally tempted to open the door and take

advantage of it. A report of the May 2008 KS workshop in Ethiopia says it all: "When asked about things that they still want to learn more about, [participants] mentioned: tools, tools, and more tools!"

*"The Internet allows us to connect with people around the world that we would never have dreamed of communicating with before,"* says White. But it requires a level of technological resources and literacy that *"blows the tops off most people's brains."*

That raises an issue of equity: Do these new, or possibly newfangled, technologies simply widen the digital divide, between those with the necessary connectivity and technical savvy to exploit Internet-based KS tools, and those without? In some cases, this will undoubtedly happen. But, as White notes, there are ways around technological hurdles since people can be quite imaginative in their use of tools. *"What happens if you want to promote knowledge sharing among people who don't have access to the Internet? At a farmers' conference in Syria a few weeks ago, farmers used mobile phones (a tool) to tell stories (a method) about what was happening on their farms."*

### A work in progress

Staiger-Rivas and White both see the KS Toolkit as an 'open' resource, one among many that development professionals from around the world can build on and improve. *"We're not advocating a single resource that's the be-all and end-all,"* says White. *"Some duplication is good, particularly with Web resources because you never know when someone's platform will no longer be supported."*

White also sees the wiki environment, in this case involving a broad international community of KS practice, as a learning tool—a way for people to find out what works in a given situation, what doesn't, and why. *"We may not have seen the opportunity when we ditched a particular KS tool or method. Or we may have applied something in a new way when we adopted it, and that innovation may be useful to other people. This is why we cannot do this alone. This is not a solo gig."*

The next stage of development for the KS Toolkit, then, will be to add 'stories' to the website—a diversity of experience from various pilot activities supported by the KS project, such as the farmers' conference in Syria.

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### Knowledge Sharing by FAO and Clients



Gauri Salokhe, Information Management Officer in the Knowledge Exchange and Capacity Building Division of the Food and Agriculture Organization of the United Nations, deals with knowledge sharing (KS) issues on two distinct levels. In this respect, the May 2008 KS workshop she attended in Ethiopia, organized by the CGIAR's Institutional KS Project, was right up her alley.

On the one hand, Salokhe's division facilitates access to agricultural information by numerous and diverse partner organizations. Among these are national ministries of agriculture of member governments, the Global Forum on Agricultural Research, and research organizations such as the centers funded by the Consultative Group on International Agricultural Research.

*"We try to make sure that the right information reaches the right people, in the right form and language,"* explains Salokhe. *Much of her work, then, has to do with "standards, protocols, and principles of information exchange."* Wearing that hat, she is keenly interested in the Internet-based 'tools' on offer in the CGIAR's KS Toolkit. In fact, she has contributed to the development of component tools and related case studies in the KS Toolkit.

On the other hand, the *"hard"* skills Salokhe needs to perform those technical skills must be complemented by the *"soft"* or *"people"* skills required for successful communication across geopolitical borders, languages, and institutions. Wearing this second hat, she recognizes that KS methods focusing on group interaction are also of special value in her work.

FAO has considerable expertise in various aspects of knowledge sharing, especially information management and exchange, the operation of communities of practice, and the design of e-learning resources in areas such as advocacy on food and agriculture issues. Salokhe's association with the CGIAR KS Project opens the door for broader collaboration on such KS topics.

*"What I really like about the CGIAR toolkit is that it links the tools and methods to the specific context in which you're working."* She cites the example of someone who wishes to improve relations between her organization's regional offices and headquarters. For that context, she explains, the wiki will suggest specific options such as an intranet, collaborative blogging, or the formation of communities of practice for regional and headquarters staff working on the same topics.

*"What I also like about the toolkit is that for each tool or method users can add their own names as contacts for more information,"* says Salokhe. *"That adds a personal touch to it."*

If she were trying to find solutions using Google, *"I might come across the name of a known guru on that topic. But if I see a cgjar.org e-mail address attached to that name, then I know that they know a little about my organization, and I will very probably feel easier contacting them. It's the icing on the cake."*