

mashup organisations rural participation content RSS
cultivation mobile phone documentation GTZ agriculture
blog resources individuals platform social software
toolkit community mapping collaboration tools web
sharing content ICT4D potential online livelihoods
Knowledge Social Web Wiki
farmers development provide
sharing community technology example research
science feed services users learning volunteers
participatory networking video areas search audio
global mobility data local sharing agriculture

The Participatory Web - New Potentials of ICT in Rural Areas

Abstract:

Web 2.0 solutions offer people in rural areas a platform for networking and knowledge exchange. This brochure provides a systematic overview of Web 2.0 experiences made to date in Africa, Asia and Latin America. It serves as a practice-oriented introduction to the theme and discusses both the potentials and the possible limits to the participatory web.



Imprint

Published by:

Deutsche Gesellschaft für Technische
Zusammenarbeit (GTZ) GmbH
P.O. Box 5180
65726 Eschborn
Germany

T +49 6196 79 - 0
F +49 6196 79 - 1115
E info@gtz.de
I www.gtz.de

Eschborn, 2008

Sector Project:

Knowledge Systems in Rural Areas

Responsible:

Dr. Annemarie Matthess

Edited by:

Christian Kreuz

Illustrations:

Mile Penava

Design:

Jeanette Geppert,
www.jeanette-geppert.de

Photographs:

© Copyright GTZ
Dr. Paul-Mathias Braun
Charlotte Haeusler
Helga Stamm Berg

© Copyright Robert Fitzgerald

© Copyright Fotolia

© Copyright IICD

© Copyright DEAL

© Copyright NABUUR

Table of Content

Participatory Web – New Potentials for ICT in Rural Areas	04
NABUUR: Effective Online Peer-to-Peer Knowledge Transfer	08
Innovation, Interaction, Information: Using the Social Web in Agricultural Development	12
Empowering Farmers in India Using the Kisan Blog	20
Web 2.0 in Ecuador: Enhancing Citizenship	24
Farmer-led Documentation	26
Potential of Mobile: Cambodian Farmers Turn to their Phones	30
The Knowledge Sharing Kit: CGIAR's Wiki Approach	34
References	39



Participatory Web - New Potentials of ICT in Rural Areas

by Annemarie Matthes and Christian Kreutz



Rural areas in developing countries are confronted by many challenges when it comes to information access and participation in knowledge networks. Since its beginnings, the potential of knowledge sharing throughout the Internet has had high hopes, but it has not fulfilled its promises yet. Obvious challenges are low connectivity particularly in rural areas, low literacy rate, lack of media competence to use the web and well function models to provide and target information. Newer technologies such as interactive web tools and the mobile

phone offer promising ways to achieve a more inclusive Internet and use the web to learn from each other. Throughout the last years organisations and projects have started experimenting with the "read and write web" and achieved new approaches to use information and communication technologies for development (ICT4D). Different to traditional ICT projects, this approach focuses on the users, it is their engagement and creativity that makes the networking and learning effort vibrant.

But what makes this newer web, often also called Web 2.0, better? Every internet user can become a publisher by making a few clicks – being it text, audio or video. Web based social networks appear worldwide. Collaboration online is possible, as the online encyclopaedia Wikipedia proves it. Organisations share knowledge, such is the case of UNDP through the Water Wiki or a Wiki to share resources about forest preservation in Africa. This goes hand in hand with efforts, frequently under the slogan “open access,” to make particular scientific information under limited licensing restrictions freely available. Other results are market information systems in different countries of Africa. Innovation happens either by adapting or applying existing technologies. The newer web is more user centered and allows normal internet users to create and use sophisticated applications. But obviously many of these new opportunities still have to prove their practice and impact.

Technically, the web becomes a platform, where information, thanks to open standards, can be easier exchanged and application can be put together in endless variations. Technical universal format allows much better interconnectedness. Many enthusiasts of the new web believe that the open source code of freely available software creates an opportunity for completely new cooperative solutions. For example, mapping services such as Google Maps, combine accessible environmental data and make it visible and more transparent. The paradigm shift is that many of these developments happen right in the community and arise out of their own needs. Blog users can engage in a two-way-conversation around different topics, where African villages potentially communicate with the global public. One such example is the NATA village blog, where inhabitants report about the day-to-day struggle of a village in Botswana against the immunodeficiency syndrome HIV/AIDS. Local solutions are presented and discussed with a potential world audience. These opportunities are particularly interesting and helpful to share knowledge and to promote learning. The essential difference is that the users themselves form out the networks from a local to a global level. One side effect of easy publishing (user generated content) is the growth of local languages on the web. There is for example, an own blogosphere in Swahili language in Africa, where bloggers expand the frontiers of citizen journalism.

Two major questions persist: Where and under which conditions can these ICT's be best used for highest impact? And, how can ICT's really be used for a more effectively knowledge sharing and learning? One key lessons learnt of the sector project "knowledge systems in rural areas" was that ICT is one of many instruments to share knowledge particularly in the local context. There are various ways to exchange local or indigenous knowledge, so the instrument of selection has to be best fit in the respective local context. ICT might often not be the best choice and certainly can only be a mean and not the end itself, ideally embedded into an existent system of knowledge transfer according to identified needs and opportunities. In September 2007 GTZ held together with IICD, CTA, CGIAR and FAO the web2fordev conference to explore the potential of the participatory web and bring together some of these experiences. This publication attempts to describe these latest trends and experiences around newest technologies and the network effects for a new ingenuity to improve living conditions.

Web2fordev conference in Rome,
September 2007



One such example is Nabuur, a global neighbourhood, which shows new grassroots networks for development presenting innovative models of cooperation worldwide. Rolf Kleef and Raul Caceres describe how solely webbased collaboration can work even with remotely villages in Africa and how they achieved an effective online peer-to-peer knowledge transfer impact. Peter Ballantyne takes in his article a greater look at new emerging forms of cooperation between development institutions worldwide. The social web helps to transcend organisations' boundaries, makes information resources transparent and gives spaces for innovation for better agricultural development. The social web can be described as people interlinked and interacting with engaging content in a conversational and participatory manner via the Internet (Wikipedia). Ballantyne also compiles a list of all the different examples from a number of organisations' developments using these interactive web tool impacts.

That is followed by pioneering examples from Asia, Africa and Latin America to use ICT's for rural development. The Indian Institute of Technology Kanpur describes its many year experiences to empower farmers through blogging. Debashis Pattanaik and Runa Sarkar describe their efforts to bridge the agriculture research in India with daily needs of farmers. The Kisan Blog has contributed in restoring experiences of rural farmers in India. Another such example is Radio La Luna, which uses different media forms to strengthen the collective memory of Ecuadorian society on key moments in its social struggle through rescuing, digitising, systematising and disseminating documents of various types about main events in recent Ecuadorian history. This engaging approach makes them one of the most visited websites in the country. But not in any case the implementation and usage of Web



Graphic facilitation on a
knowledge sharing workshop



2.0 tools work that easily and might not be the appropriate solution. Dorine Rüter and Anne Piepenstock present a project around farmer-led documentation (FLD), which highlights an alternative way of sharing cultivation practices through digital media. FLD extends existing knowledge sharing forms through digital media to highlight local knowledge and make it explicit for a larger audience. The last practical examples present the increasing potential of mobile phones on the example of decentralized SMS based information exchange. It shows how Cambodian farmers can benefit from such a free and open source solution to make their mobile tools for better transparency and, lastly, improve their incomes. Ken Banks also shows how local software and hardware solutions are particularly for mobile phones' key in the future, because theirs are developed around real needs and made to work in environments with little or no connectivity.

The challenges for ICT in rural areas are still huge if one looks at the high costs, illiteracy and lack of access. Whereas in cities broadband connection is often available and numerous internet cafes offer their services, most villages are disconnected. Nevertheless, rising Internet users rates show the growing participation of developing countries in the World Wide Web. Especially, mobile phones promise a more inclusive web. The newer web entails obstacles such as the much needed bandwidth, but also offers lightweight information exchange from any device. One big challenge remains mainly for rural areas, that training facilities are much needed because engaging in the participatory web needs a certain media competency.

The participatory web offers new ways to translate and bridge language domains. Users publish themselves and can engage in a dialogue. One such result is that knowledge becomes more explicit – bridges are built between the local and global knowledge. Worldwide agriculture research cooperation has a long experience in this field and results show how difficult it is to translate global scientific knowledge to the local context. The examples in this publication shall present new ways of a peer-to-peer exchange, between farmers or communities locally, regionally and globally. The changes of the Internet in recent years have been providing new opportunities to link learners and to increase participation in the network of ideas.

NABUUR: Effective Online Peer-to-Peer Knowledge Transfer

by Raul Caceres and Rolf Kleef



The Global Village

NABUUR takes a 21st century approach to the traditional model, through the online platform >>> www.nabuur.com. A local representative of a community in a developing country can go to the website and sketch the local situation in their community and what they hope to improve by describing a project they are working on, such as: improving crop irrigation, developing a regional bee-keeping business, setting up a dairy cooperative.

With the help of an online facilitator, the project is broken down into tasks that can be done by online volunteers. For example: find information on specific irrigation techniques, help write a business plan, build a web-

site, translate a document, arrange equipment, or find examples how a problem was solved by others. Online volunteers use the site to find tasks that match their interests, skills and expertise, and become part of a virtual neighbourhood around the community and its project, working together online. The facilitator shepherds the discussions, and makes sure the local representative stays in control.

Using internet, and now also SMS, NABUUR lets communities gain access to a large pool of online people eager to offer their time and talents to make a positive change. A significant part of these online

volunteers are in developing Countries themselves, and often bring first-hand experiences from similar communities as the ones they volunteer for.



Moroto, Uganda

Water filter method selected and built

In the rural community of Moroto, Uganda, clean drinking water is a scarce resource. The people lack the skills and equipment to purify, store and manage their water. The community asked Neighbours for ideas to improve water sanitation. In all, Neighbours compiled details on 20 different home-based water purification systems.

To help the community determine which method fits their needs best, Neighbours created a survey to assess local skills and assets. Based on the outcome, the people of Moroto decided to install bio-sand filters in 50 homes.



Web 2.0

Apart from a small team of paid people who oversee the development of work processes and the website and provide training materials, everything at NABUUR is done by volunteers. Since its start in 2001, more than 17,000 neighbours from over 160 countries have registered, and have become active in over 180 villages.

NABUUR is a typical Web 2.0 site, combining crowd sourcing (Wikipedia, Howtopedia), social networking (Facebook, Xing) and self-organising (Change.org, Pledgebank). The online platform lets people collaborate in new ways, and learn from each other, combining social relations and conversations with peer-to-peer knowledge exchange around concrete tasks and needs. To make these peer-to-peer interactions successful and deliver required outcomes, there are some key aspects that can facilitate project evolution and effective knowledge transfer.

Initial interactions are key to building a relationship of trust. Including openness and honesty from the first moment, will usually facilitate more effective sharing of quality information. Where the needs are more clearly identified, the solutions are more appropriate to the local situation. In the NABUUR intake process, local representatives and facilitators are encouraged to spend some time carrying out discussions prior to a project going online. This allows in most cases the beginning of a relationship where the expectations are presented by each side and they are taken into account throughout the project.

It is important to create awareness of these differences, such as poverty, early in a project to ensure that volunteers are clear about the things they will be exposed to. This will also help motivate the individual by understanding the positive changes that their contribution can make.

Motivating the Players

One of the main obstacles when involving online volunteers in developmental projects is that it is very easy for a person to stop their contribution by just choosing to stop visiting the knowledge-sharing platform. When involving online volunteers, it is very important to identify the motivations behind their participation in the specific project to ensure the required level of engagement is achieved. For example, let volunteers know more about the country where the project is developed, let them apply their expertise and in some cases help them gain the experience that can help their professional development. It is also important to create and maintain formal and informal communication to ensure the needs of the volunteer are met throughout the project.

In NABUUR, it has been identified that in projects that have had more success, the relationship of the project facilitator and the local representative and neighbours has gone beyond the online discussions in the platform. There are several facilitators who have visited the communities they volunteer for, and geographical groups have been formed in cities where there is a significant number of volunteers. This is the case for Sydney, New York and Nairobi, where meetings of online volunteers are held on a regular basis.

To ensure the participants of the project are kept motivated and engaged with the project, it is important to provide recognition for all results achieved, no matter how small they may seem, as it is with time and the building of small results that the main objectives of the project will be achieved.



Encouraging Discussion to Build and Keep the Momentum

Being proactive in discussions and ensuring the objectives of these discussions are clear from the beginning is a key to moving forward at the right pace. It is recommended to provide regular feedback and to summarise the out-comes of the discussions and to encourage the participants to continue finding solutions together with the local representative. This will ensure that people feel connected with the project increasing the chance of longer-term retention.

Involving the Right People

In most cases, the local representative of a rural community has limited resources to dedicate time and efforts to discuss the project in an online environment regularly. In some occasions, additional time would need to be devoted mentoring a volunteer prior to allowing him/her to provide input/expertise to a project. In the same way, by concentrating effort on identifying the right human resources (skills) that will be required in the early stages of the project, the chances of success will increase.

NABUUR allows facilitators, local representatives, and in fact any volunteer, to browse the database of volunteers to look for the type of expertise that is required for the project, and then invite a person to join the project effort.

Concluding Remarks

In 2007, several local representatives were brought together to evaluate how NABUUR works for them. It turned out the approach indeed was a paradigm shift for them too, being more used to submitting proposals to regular developing organisations: most local representatives have strong leadership skills, and through NABUUR, they truly felt in charge of their project.

The online volunteers learn a lot as well, and need to act as advisors and mentors rather than as supervisors. Rural projects are only sustainable when the process of development of a rural project keeps the community empowered and in the centre of all actions.

Innovation, Interaction, Information: Using the Social Web in Agricultural Development

by Peter Ballantyne



Introduction

More than ever before, we need well-communicated, accessible and reliable information and knowledge on agricultural issues. We also need additional, different knowledge, from different people, presented in different ways.

For these to happen, establishing effective and trustful partnerships and broader knowledge systems becomes more and more essential. Relations among the actors are key: "Innovation processes can be enhanced by creating more possibilities for actors to interact."

The new 'social' Web 2.0 offers a range of opportunities for more inclusive, participatory approaches to knowledge sharing, where knowledge is sourced from a diverse set of actors. This social web can act as a catalyst for people to interact and for knowledge sharing and communication to flourish.

More than ever before, we need reliable, accessible information on agricultural issues. Recent challenges like the food crisis, climate change, and biofuels pose enormous challenges, as the necessary knowledge bases are huge, scattered and complex, and they cross disciplinary and geographic boundaries. To cope with the challenges, we need additional, different knowledge, from different people, presented in different ways. We need innovative ways to mobilize knowledge of many kinds and from many sources and perspectives, weaving and blending it to display different patterns and promising solutions, and empowering all sorts of decision makers to act.

A social and technical revolution on the Internet (Web 2.0) offers some ways for us to meet these needs. As part of this revolution, individuals and organisations are taking on different mindsets and using new toolsets to create, share, and apply information and knowledge in creative and innovative – and useful – ways.

This article looks briefly at some trends in the agricultural development sector, particularly the notion of innovation systems which complements Web 2.0 thinking. It illustrates concrete ways people are using the 'social' Web 2.0 for networking and knowledge sharing in the agriculture sector.

An Emerging Agricultural Innovation Agenda

The World Bank recently argued that agricultural development depends to a great extent on how successfully knowledge is generated, shared and applied. It suggests that investments in knowledge – especially in science and technology – have to be adjusted to rapid changes in the wider agricultural environment:

- Markets increasingly drive agricultural development.
- Knowledge, information, and technology are increasingly generated, diffused, and applied through the private sector.
- Information and communication technologies, especially the Internet, transform our ability to take advantage of knowledge developed in other places or for other purposes – taking advantage of new knowledge has become as important as generating and diffusing it.
- The knowledge structure of the agricultural sector is changing – many people interact to generate new ideas or develop responses to changing conditions; and technical change and innovation have become much more interactive processes.

Uwe Werblow at the Second European Forum on Sustainable Rural Development in 2007 captures some of the changes facing agricultural research and innovation:

- The complex and dynamic environment for agricultural development requires a broad based research focus, a broad set of scientific disciplines, and looks beyond agriculture and biological sciences to social and natural sciences as well as policy research.
- The composite, multifaceted knowledge and the high-tech tools required for research today cannot be generated or operated by a single institute. Establishing effective and trustful partnerships and broader knowledge systems becomes more and more essential.
- New types of relationships and ways of working together are emerging: Linking, networking and consortia, based on sharing and accessing information and knowledge with ICTs. There is a new research architecture linking national, regional and global research actors, where they jointly define priorities based on the comparative advantage of the various actors.

An important part of the change in the discourse on agricultural development is the emergence of an 'innovation systems perspective' that focuses on interactions between different actors working to bring change.



Agricultural Innovation in Systems

According to Hall, the innovation systems perspective fundamentally recognizes that the determinants of innovation, as a process of generating, accessing and putting knowledge into use, are the interactions of different people and their ideas, and the social setting of these interactions and relationships.

This is a major change from earlier rather linear paradigms of knowledge creation and use. Innovation systems thinking recognizes that innovation and change can originate and be catalyzed anywhere in a network of actors involved in a specific value chain or activity. The relations among the actors are the key to knowledge sharing and application: "Innovation processes can be enhanced by creating more possibilities for actors to interact."

The World Bank concludes that the "innovation systems concept is attractive not only because it offers a holistic explanation of how knowledge is produced, diffused, and used but also because it emphasizes the actors and processes that have become increasingly important in agricultural development."

What does this mean for information and communication management in agriculture? The CGIAR Science Council suggests that "it will be important that all actors in the R&D process – from research design through to those who will apply the outcomes in the field – should communicate with each other and should have equal access to knowledge." We need inclusive, participatory approaches to knowledge-sharing.

Knowledge also needs to be sourced from an increasingly diverse set of actors. It is not sufficient, for example, for research institutes to access each others' reports – they need to tap into many other information flows, including from farmers themselves, and find ways to document and provide access to this. We need to ensure that information products and services can be accessed and applied by more diverse 'audiences' who may not be used to traditional forms of research communication. Different, collaborative, and interactive, forms of sharing and exchange are needed.

Innovation, Interaction, Information – the Social Web

Knowledge, information, ICTs, partnerships, and trustworthy relationships are important assets in the campaign to understand and address the challenges facing agriculture and rural development.

In recent years, making innovative use of the Internet, and especially the web, has become a fast-growing revolution. It offers us opportunities to share information and knowledge differently, and better.

The new 'revolution' is called 'Web 2.0.' According to one observer, the web is "shifting from being a medium in which information is transmitted and consumed, into being a platform in which content is created, shared, remixed, repurposed, and passed along."



It is characterised by increasing amounts of 'user-generated content' and 'user-remixed content' – where different knowledge and information are created and brought together by individuals in their own personal 'mash up.' Across the web, individuals, groups and organisations are using this new web to become active creators and producers of information. Inherent in most of the tools are features offering interaction, feedback and discussion – 'if you like this story, other readers recommend this one'; 'if you care about this issue, join this social networking space', and so on¹.

The potential anarchy, as everyone publishes and interacts, is matched by a suite of new tools that allow people to track, aggregate and channel different streams of knowledge. Each individual can be a publisher; each individual can also create his or her own personal – or group – news channel, library or atlas, specifying what it should contain, how it should be accessed, and by who.

Key characteristics of the tools:

- They follow a 'service model' – most are designed to be used across the Internet and they tend to be free or very low cost.
- They are designed to encourage 'user' participation – people can leave comments, cross-link content, add tags, and reuse and republish content.
- Since the various services are spread across the web, each with its own niche, dynamic and participants, agricultural communicators need to position their messages to be in many places, giving each piece of content a 'passport' and 'visas' to travel so others can incorporate it into their personal services. Attracting visitors to a website is "Web 1.0"; optimising content so it will interact with different people, wherever they are on the web, is Web 2.0.

While these tools are mostly just technical applications, putting them to use requires a different mindset that particularly values the content and efforts of other people, encourages interaction and collaboration, and makes knowledge open. The convergence between these notions and some features of the innovation systems approach suggests we can benefit from connecting the two concepts.

Let's look at some examples of the Web 2.0 revolution in agriculture >>> www.web2fordev.net.

The Social Web in Practice

BLOGS

One of the strengths of Web 2.0 tools is the way they can be quickly configured and set up to produce regular information updates – from organisations and projects, and on different issues. Blogs are frequently the tool used for this.

CTA was perhaps the first agricultural development organisation to recognize the potential of Web 2.0, and they run several blogs: One is used to publish news and announcements.

>>> <http://announcements.cta.int>



another is used by the Director as a vehicle to interact with CTA communities >>> <http://neun.cta.int>); a third is produced by its Brussels office covering policy developments at the ACP-EU interface.

>>> <http://brussels.cta.int>



With several partners, it also set up a blog (in English and French) to publish and disseminate reports as well as audio and video stories from a series of 'Brussels Development Briefings – face to face meetings held in Brussels.

>>> <http://brusselsbriefings.net>



Several CGIAR libraries use blogs to report on new information resources and happenings in their institutions – IFPRI, ICRISAT, IRRI, and Bioversity for instance. The ICT-KM Program of the CGIAR is a serious blogger.

>>> <http://ictkm.wordpress.com>)



it uses different labels to report on each of its major projects, publishing regular updates on progress and new developments. In Africa, FARA runs a frequently-updated news blog on activities related to its mandate.

>>> <http://fara-africa.blogspot.com>

In late 2005, when IAALD wanted to update its communication activities with a regular updating service, it also set up a blog

>>> <http://iaald.blogspot.com>

to publish news on agricultural information and knowledge sharing activities from around the world.

Outside these 'institutional' blogs, there are many excellent examples where individuals are nurturing and feeding quite vibrant knowledge exchange through blogging. An outstanding example is the agricultural biodiversity blog >>> <http://agro.biodiver.se>.



A good place to look for blogs on agriculture is >>> www.technorati.com/search/agriculture.

All these efforts build on the ease of use of blogging platforms. They can be set up and customized very quickly, they can be updated easily, several editors and contributors can collaborate, and they provide built in tools that allow, for example, readers to comment on individual postings or to subscribe to regular RSS feeds of the latest stories.

WIKIS

Wikis offer a different possibility to people wanting to publish and co-edit content on the web. One of the best global examples is wikipedia >>> www.wikipedia.com



where an immense amount of agricultural content can be found. This is contributed by many volunteer editors keen to validate the information on the site. Howtopedia >>> www.howtopedia.org illustrates a similar approach in the development sector: it is a collaborative library for practical knowledge – on a wiki platform.

For its recent courses on knowledge-sharing in agricultural research, the CGIAR put together a wiki with training materials for the tools and methods being taught. >>> www.kstoolkit.org



A similar approach is followed by ICCO and Euforic with their ComPart support centre. >>> <http://web2share.pbwiki.com>



This was set up to support staff of ICCO and its partners as they build a knowledge-sharing platform. >>> <http://compart.pbwiki.com>



Indeed a wiki is used as a tool to manage the project, allowing people in several organisations to update progress. Such 'project' seems to be growing (but, since they are kept closed, they are difficult to see!).

These approaches are not limited to the development sector. The eXtension initiative in the USA >>> www.extension.org



uses wikis and blogs to connect consumers and producers of agricultural knowledge.

People working in agriculture frequently take photographs and this image record is a very important way to document plants, diseases, and land conditions. New Web 2.0 tools are available to make the task of organising and sharing photos and images much easier. IRRI uses Flickr to upload and share its photos. >>> www.flickr.com/photos/ricephotos/sets



PHOTOS AND VIDEOS

The service allows IRRI to both upload its photos and to manage how people can use the photos. The same Flickr service is used by, among others, GFAR and IAALD to share photos from events (see the recent AFITA/IAALD world congress where photos by different people are tagged 'aginfo8' on Flickr and other services).

Something very similar is available for presentations where Slideshare is used by IAALD, CTA, Euforic and many others to upload and share power-points.

>>> www.slideshare.net/euforic or www.slideshare.net/iaald



A growing and very interesting area is video. Using the video feature in most new digital cameras and mobile phones, 'citizen' videos are uploaded and shared across the Internet. YouTube is probably the best-known service and numerous agricultural videos can be viewed. WARDA and IRRI have used videos to communicate science with farmers.

This 'zooming-in, zooming-out' approach helps extension service providers create regionally relevant learning materials that are locally appropriate.

The Brussels Development Briefings also use short video interviews to capture the reactions of speakers and participants in the meetings >>> http://euforic.blip.tv/posts/?topic_name=brubriefings.

A similar approach was used to help introduce the recent DFID research strategy.

>>> http://r4d.blip.tv/posts/?topic_name=strategy



The team at FARA is also an enthusiastic user of the short video interview >>> <http://fara.blip.tv>.

ICCO has used such videos to document and share experiences from a project to examine biofuels and the right to food.

>>> <http://iccoalliance.blip.tv/file/825351/>



Mostly, these do not compete with commercial television journalism in terms of quality and editing. But, they can give a sense of immediacy, a taste of the discussions and issues, and a dynamic way to document events, projects and personal stories.

As with the blogs, wikis and photo-sharing sites, the videos can be edited and uploaded using easy-to-use software already available on most computers. Hosting and streaming is handled by the various online services.

All these services allow and encourage comments and feedback and sometimes rankings from visitors. All encourage visitors to link to, tag, re-use and 'embed' the objects in other web services and sites. All provide a range of RSS feeds and automatic subscription options so a visitor can be updated when new content meeting their interests is published.

RSS FEEDS

These RSS feeds are something like the lifeblood of Web 2.0. Individuals can subscribe to them to stay updated. Feeds can be mixed and aggregated together to avoid receiving multiple alerts. Feeds can also be re-published in other web sites.

The GFAR

>>> www.egfar.org/egfar/website/new/newsrss and FARA

>>> www.fara-africa.org/knowledge-base/international-news-feeds.



web sites display feeds from several other sources.

As the number of RSS feeds grows (many organisations are just realizing their value), we face a new challenge: To identify and select the various feeds. Two recent services have been set up to help deal with this problem in agriculture. CTA has launched a 'news4dev' aggregator

>>> www.newsfordev.org



where readers can see and subscribe to different RSS feeds. FAO, GFAR, IAALD and others have also set up an aggregator

>>> www.agrifed.org



where feed publishers can submit their feeds, and readers can sign up for feeds that interest them.

Some other Web 2.0 tools are also getting used: Organisations start to use Facebook and LinkedIn to reach out to communities and individuals interested in specific areas. Customized search engines can be used to search specified subsets of the Internet

>>> www.google.com/coop/cse.

Some people have set up shared online calendar systems, for example:

>>> www.euforic.org/detail_page.phtml?&lang=en&text10=agenda.

Shared bookmarking of web resources has spread and is used by many individuals and some organisations

>>> <http://delicious.com/iaald> or

>>> <http://delicious.com/ifpri>



to track and share interesting web content. The users of these services are also networking and linked to 'normal' websites, email and to mobile phones.

As with the other applications mentioned above, content from almost all the tools can be shared and displayed on almost all the other tools – and across to 'normal' web sites, email, and to mobile phones.

Where information and knowledge in agriculture once comprised rather linear processes managed by specialists, tomorrow's harvests will spring from more organic approaches where innovators of all types become active creators and managers of information and knowledge. This is already happening as researchers and farmers become bloggers, extension workers build wikis, and librarians become film makers. Underlying it all, the new 'social' Web 2.0 acts as a catalyst for people to interact, for knowledge sharing and communication to flourish and for innovators to connect and act together.

Empowering Farmers in India Using the Kisan Blog

by Debashis Pattanaik and Runa Sarkar



Introduction

With a growing population and improved standards of living, Indian agriculture faces many critical challenges. Therefore, rapid dissemination of knowledge based practices is essential. To close the loop, knowledge connectivity between the academic/research institutes and villages with the world is

needed, so that the 'best' practices can enhance India's agricultural efficiency, create the 'next' practices and create new avenues for rural livelihood. There is a national agenda for creating 'Knowledge Centers' in every village. But there is hardly any effort to create an agricultural knowledge repository in digital form,

which is alive and is nurtured daily through feeding, weeding, & pruning – or enriched by interactive usage. A lot of good knowledge nuggets remain at local level and as unstructured information or tacit knowledge.



We live in an era of information technology where the Internet constitutes an integrated component of everyday life – on it we create and share knowledge with others. The Internet started with a technological platform known as Web 1.0, which was dominated by information production and reception. The current phase known as Web 2.0 is a platform dominated by human communication with the Net, where Wikis, Blogs and Social networking sites dominate the virtual space.

To have a positive impact on the process of knowledge generation and sharing requires that there should be provision for reciprocal flow of ideas, information and mutual decision-making. Most ICT applications, no matter how well represented, are usually one-dimensional. Digital archiving of information encompassing text, audio, graphics and video is only the first step to facilitate this process. The second requires placement of the information in a meaningful knowledge management system where it can be used and maintained by the community. Moreover, as Web 2.0 has clearly demonstrated, the success of an ICT application for knowledge generation and sharing is ensured. There are several willing users such as the 'Kisan Blog' of the DEAL (Digital Ecosystem for Agriculture and Rural Livelihood) Project developed by the OPAALS team of IIT Kanpur, which provides some insights towards this. Digital technology can empower farmers by providing them the choice to access the most appropriate option in real time using the access method they are most comfortable with. It is widely recognized that the development agriculture today is mostly dependent on the effectiveness of agricultural extension, because new pests and/or new diseases need new solutions and new methods can significantly enhance yield. Cultivating digitally facilitated knowledge and skills is a highly potent strategy to achieve the goals of productive, profitable, stable and competitive agriculture.

The DEAL Project

The DEAL project, conceived by IITK (IIT Kanpur) and funded by Media Lab Asia, is an ICT (Information and Communication Technology) enhanced network built on an existing framework of tele-centers in rural institutes, village schools, Krishi Vigyan Kendras (Agriculture Science Centre) and other deployment partners. The project aims to create a digital knowledge base by involving the various actors in the existing system in the content creation process and making this knowledge accessible to farmers and other agricultural practitioners. IITK provides the collaboration and collation technology platform, skills and resources to assist knowledge flows in the domain. The broad objective of the project is to initiate recursive, reflexive and self-reinforcing knowledge creation and network building process.

Essentially, knowledge is a social product produced and consumed by all. The DEAL tried to resolve the complexities within the structure of knowledge at its inception. Creating a knowledge space and content management system in the domain required that both, the explicit and tacit form of knowledge, are captured, integrated and conceptualized as “Gyandhara” and “Ganagyan.” The Gyandhara was based on the assumption of formal-scientific knowledge, where as Ganagyan focused on all the localized, everyday and context based knowledge, which is tacit in nature.

In the beginning, the focus of the project was on digitizing the existing knowledge collected from various sources primarily on a text and image based platform. However our later field experience through ethnographic observation suggested that in the absence of proper educational backgrounds and skills many Indian rural farmers failed to use and interpret the knowledge that is available through the DEAL (text and image) based architecture. Thus, there was a need to develop a technological platform within the DEAL architecture, which could provide a way to the farmers to explain their problems in an easy and convenient way and helps them to establish a dialogue with scientists and researchers. This dialogue could then expand to other lead farmers. Various interactive sessions with the farmers at villages and Krishi Vigyan Kendras (Agriculture Science Centres) suggested the need for an audio facilitated interactive technology platform to meet the farmers’ need. This would also build on the traditional means of knowledge dissemination through “shruti” (hearing). The output of this exercise is the audio blog named “Kisan Blog” (Farmer’s Blog) at the DEAL portal. >>> <http://opaals.iitk.ac.in:9000/kisanblog/index.php>

Kisan Blog (www.dealindia.org)

A blog is a website based on which users can post messages that are chronologically stored and other users can comment on these entries. Here entries are archived in reverse chronological order. As a Web 2.0 application, it is more dynamic than Web 1.0 and has capability to support grassroots activism and participation. Kisan Blog is also a Web 2.0 application that provides facility to the users to post their entries and comments through an audio device.



The interface of the Kisan blog is based on audio interface of a blog portal. A person interested to put up any question, can do the same either by recording it in an electronic device or directly through a microphone attached to a computer linked to the Internet.

The website contains information on how to use the blog. For posting any query the user has to log on into the page. Each participating Agricultural Science Centre has been allotted a separate login identity to validate their identity. Once a user logs in to the page he can post his query either directly or can upload a file already recorded on an electronic device. The usual time period for direct recording is 250 sec. After the recording is done, the user can check the same for quality, clarity etc. by clicking in the option play. When this is done it is automatically stored at the server of DEAL.

However to be on air, it requires an administrator's permission for validation. The filtering is usually done by the agricultural experts of DEAL. This has been done with an intention to ensure that the questions asked and the answers provided are valid. Once on air, the query appears on the blog site with a title, identity and the audio. Users interested in answering the query can do so by clicking on the option "number of suggestions" which appears at the bottom left of the query.

To answer a query, one can follow the same recording method. The names of the most recent users who provide suggestions along with associated information related to their designation, expertise, etc. are categorized and appear at the top of the Kisan Blog. This ensures authenticity of the suggestion as well as acts as a form of intrinsic reward in the form of recognition to the person.

The Kisan Blog holds three possibilities for the upcoming web technology and use in agriculture and rural livelihood domain.

- It allows capturing the tacit knowledge in its pure form. The distortion of the knowledge does not occur as it is mostly in audio format and is directly added to the portal.
- It is based on an easy to use and easy to learn mechanism.
- It ensures collaborative practices for knowledge generation and reuse through intrinsic rewards. Web 2.0 has empowering effects if it is used as a tool for communication and cooperation in civil society. In this sense Kisan Blog has contributed in restoring the lost voices of the ordinary rural farmers in India society. It has enlarged the sphere of voices and issues that would otherwise have remained marginal.

Web 2.0 in Ecuador: Enhancing Citizenship

by Paula Carrión



The implementation of Web 2.0 tools in organisations across Ecuador is a relatively new practice. Web 2.0 is the social internet, which offers a whole new way to receive and send information. With Web 2.0, the reader does not only consume information contained on web pages, but also becomes a content creator who has the possibility to publish her/his own information through many tools. In Web 2.0, the information is dynamic and it adapts to the needs of the different readers. More importantly, there is a sense of collaboration and participation in Web 2.0 since, for instance, one can comment on a blog entry or share information in book tagging. Even though the term is known, it has been difficult to use in reality, largely due to the lack of training

in the use of tools such as blogs, wikis, RSS feeds, audio and video blogs, and other lesser known tools.

Nevertheless, in Ecuador there are organisations that are successfully using second generation web tools for development. One of these is Radio La Luna, a non-profit organisation, which through radio broadcasting, became the leader of social movements and citizen participation. Radio La Luna has been supported by the International Institute for Communication and Development (IICD) to implement a project called "Digitizing the 'memory' of the social struggles in Ecuador" since 2007. This project aims to strengthen the collective memory of Ecuadorian society on key moments in its social struggle

through rescuing, digitising, systematising and disseminating documents of various types about main events in recent Ecuadorian history. Radio La Luna has enhanced its website by integrating the use of Web 2.0 tools, in order for it to better support its goal of enabling people's participation. Since early 2007, the website has incorporated some Web 2.0 features like user comments on all published news articles, RSS feeds, chat, audio streaming, integration of YouTube videos into the site, and making podcasts of radio shows available for download. All these features have contributed to creating a very dynamic and collaborative web experience. Censorship is defied, and readers participate as real people providing real content.

Without Web 2.0, people's participation would not be possible to that extent and the Radio La Luna website would not be one of the most visited web pages in Ecuador. Today the Radio La Luna website has more than 500 unique visitors daily; in a country where only 8% of the population regularly uses the Internet.

The use of these Web 2.0 tools has given Radio La Luna a whole new world of possibilities for content creation, knowledge sharing and enhanced participation from the people that the site serves. Now, the readers are not only readers but also content creators and editors of the topics that they know and care about.

The implementation and integration of Web 2.0 enabled services such as required training for the staff of Radio La Luna and some of their readers. They needed to learn how to use the tools to create blogs, and how to use the blogs to discuss current affairs. Now there are more than 80 blogs hosted by Radio La Luna, covering a broad range of topics such as photography, technological literacy, policy and the events of the day. The use of Web 2.0 has successfully increased public participation and boosted visits to www.radiolaluna.com. This makes it clear that the project is not about the technology, but it is about people and trust, enabled by technology.

Infodesarrollo.ec, an Ecuadorian ICT for Development Network, has also been giving local support to Radio La Luna. The Network's mission is to promote the generation and exchange of information, methodologies, experiences and knowledge in the area of ICT (Information and Communication Technologies) for development. One of the ultimate goals of this Network is to foster multi-sectoral participative processes in public policy on this topic in Ecuador – that is to say, to foster the use of these technologies to enable discussion of, and participation in, public policy. As one of Infodesarrollo's member organisations, Radio La Luna received support from the Network in the use of Web 2.0 tools, especially on using blogs. Infodesarrollo.ec is a live example of how Web 2.0 tools are used and promoted to improve the communication between its member organisations who in turn collectively work towards enhanced sustainable development in Ecuador.

Lessons learned and limitations

Even though the term Web 2.0 and the potential of these second generation internet tools and services is not yet fully understood by social organisations and their members, when they get to know it and gain the required skills through training, organisations begin to incorporate these tools in their work. Yet, it is important to highlight that the grassroots organisations care more about the content creation and collaboration it enables, rather than the tools used.

Undoubtedly, a significant limitation in the use of Web 2.0 tools is bandwidth. In Ecuador, the average connection in the rural areas (if connectivity is available at all) is between 56 and 128 kbps, and most of the Web 2.0 tools require more bandwidth for them to function effectively. This is a very big limitation when it comes to uploading and downloading files or pictures or even to use mash-ups sites, including streaming media, especially video. However, despite the lack of high speed connectivity, the main limitations of Web 2.0 are available capacities to integrate and use the tools, and the lack of availability of content in local languages.

Farmer-led Documentation

by Dorine Rüter and Anne Piepenstock



Sustainable agriculture and natural resource management depends to a great extent on the effective interaction of the knowledge and experience of local farmers and of development agents. Documenting and sharing local experiences, practices and initiatives play an important role in this interaction.

Documentation, however, is frequently done in an extractive way, with outsiders controlling the process, and the information that has been documented being stored beyond the reach of the community. Recently, there has been a move towards farmer-led documentation (FLD), whereby local people tell

their own stories in their own language. The resulting products can be used by community members for internal learning within the community, for exchange with other communities and for sharing with development workers, researchers and policy-makers.

An FLD Process in Brief

In Bolivia, where the AGRECOL Andes Foundation introduced farmer-led documentation to rural communities, the documentation process starts at the community level. Using participatory rural appraisal-type exercises, community members decide what they want to document (a practice, an innovation, a project) and which elements (objects, people, activities) need to be captured to convey their message. This information will be used later to capture and process material. In the next step, the community jointly identifies the type of documentation to be applied and, if necessary, which members should be trained to use the relevant equipment, such as cameras or audio recorders. With the storyboard prepared and facilitators trained, the agreed material is then captured and processed into a usable format. The community members involved present the edited material to the whole community for discussion and validation. Finally, the resulting documentation is used for a variety of purposes, such as sharing experiences between local communities, influencing policy at local or regional level, or even the education of college students to help them value and learn from traditional knowledge.

Supporting Farmer-to-Farmer Learning and Exchange

FLD is a learning and capacity-building process. Documentation, especially when done with others, helps farmers to analyse what they know, to capture that information, and to recount it to other people. The documentation is presented in a language (be it visual, spoken or written) that he or she understands. This makes the documentation material very suitable for processes such as farmer-to-farmer training and extension.

The following case illustrates how community members used the results of their FLD efforts for learning from and sharing ideas with a neighbouring community.

In Ghana, participatory video (PV) was used as a tool to empower innovative farmers to share their innovations with others. Two farmers' groups at Wapuli and Chegbani, Saboba-Chereponi district, were trained in PV and subsequently shot their own separate films about their innovations using siella, a salty soil enjoyed by animals (Bruce et al, 2006). Each community watched both films: their own and that of their neighbouring community. This enabled them to analyse and compare the actual innovation that was documented, as well as the quality of the films.

“Community members of all ages, the aged, the able-bodied, youth and children gathered for the event. The air was rife with comments as the various farmers known in their community introduced themselves on the screen.”

(Bruce et al, 2006)

The film of the Chegbani farmers' group featured men and women, and captured cattle licking the siella mineral lick. After watching this film, the Wapuli community realised they too have female members in their farmers' group, but they had not included them in the film. Also, they stated, “We should have shown our bullocks licking...”. In turn, the Chegbani farmers noticed the Wapuli mineral lick was made differently and was much more solid. This provided them with new ideas for improving their own lick blocks.



FLD Can Promote Local Innovation

FLD, with people themselves defining what they wish to document, can also promote local innovation. Local innovation can be defined as the process through which people in a given locality discover or develop new and better ways of doing things, using the locally available resources and on their own initiative (Waters-Bayer et al, 2006). Throughout the world, farmers experiment informally to develop and test new ideas for the better use of natural resources. As shown in the example from Ghana mentioned above, FLD enables such farmers to document and share their innovations. Furthermore, FLD may also be used to describe the process through which these innovations came to be. Using such documentation, farmers can demonstrate their capacity and willingness to innovate, which in turn can transform how research and extension agents view local people. This new perspective may provoke a reorientation of research and development efforts to enhance farmers' capacities to adjust to change – to develop their own locally appropriate systems and institutions of resource management – so as to gain food security, sustain their livelihoods and safeguard the environment.

Opportunities and Challenges of ICT

Modern information and communication technologies (ICT) offer interesting new opportunities for FLD. Participatory video, as used in Ghana, is one promising example. Farmers' ability to record their own messages using text, pictures, audio or video can increase the effectiveness of existing media such as radio, and open up new means of grassroots communication.

Although experiences are promising, many challenges still need to be addressed. A significant challenge, for example, is finding a balance between the opportunities that ICTs offer, while bearing in mind the feasibility and sustainability of the proposed solutions. Technologies such as photography (Bolivia) or video (Ghana) may be well suited to the visual culture and illiteracy levels often present in farmer communities, but the equipment needed is usually delicate and expensive. Communities interested in FLD have started looking for ways to cover costs of purchase and maintenance of electronic equipment. Some use their photo or video camera on a commercial basis, for instance to record weddings or other social events. Others have found a local NGO prepared to provide a digital camera, as well as the space and a computer to function as a community documentation centre. Joint initiatives between local organisations, local public authorities and support from an NGO or project can improve the sustainability of these community centres.

Another challenge is developing the required skills to handle the ICT equipment. Integrating technical training in ongoing capacity development interventions can strengthen the potential of ICT-based documentation. For example, as currently being tried out in Bolivia, learning how to document could be included in the curricula of conventional youth education. This approach has an added advantage – it works in two ways. By utilizing the computer skills they developed at school, young community members can have a more active contribution to the documentation process, while experienced farmers have the opportunity to share their accumulated knowledge with them.



Conclusion

FLD has great potential to empower and build the capacity of local communities. When exploring the opportunities new ICTs provide to realise this potential, it is also essential to realistically address the challenges that go hand-in-hand with applying these technologies.

Development agents interested in supporting a farmer-led approach to documentation can learn from and strengthen traditional methods of knowledge sharing and documentation already used by local communities. Any positive influence from external development agents on the effective application of FLD by local communities can only come from stimulating and enabling farmers to take the lead, as well as showing a willingness to listen to, and learn from what they have to say. In any case, the main principle of FLD should prevail: letting the farmers set the agenda for their own development.

Potential of Mobile: Cambodian Farmers Turn to their Phones

by Ken Banks and Christian Kreutz

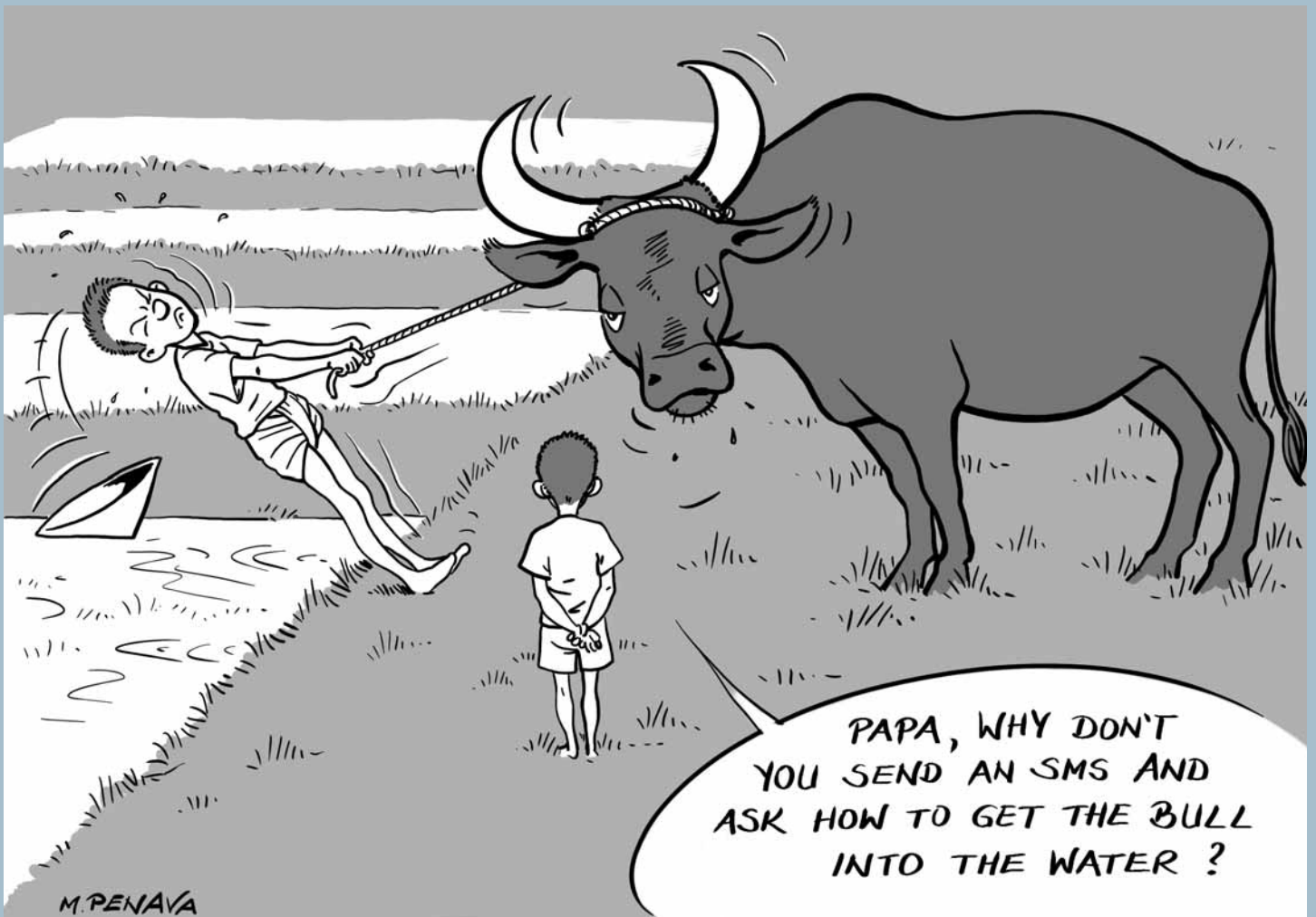


FrontlineSMS is the "Swiss Army Knife" of SMS applications. In other words, as a tool, it allows a wide variety of messages to be sent and received through a central hub using an attached mobile device, while providing additional functionality. The main idea of FrontlineSMS, originally developed back in 2005, was to fill a growing need for a plug-and-play texting solution for NGOs, which required them to have little or no technical expertise. It was never promoted as a single solution to any

particular problem. The message to grassroots NGOs was simply this: "if you've read about mobiles and all the great things they're doing, and you want to do something yourself, then try this. It's free, and it's easy, and other people are managing to do some quite interesting stuff with it".

In the first three years since its release, FrontlineSMS has been used by NGOs in over fifty countries for a wide range of activities including blood donor recruitment and assist-

ing human rights workers, to promoting government accountability, keeping medical students informed about education options, providing security alerts to field workers, election monitoring, the capture and exchange of vegetable (and coffee) price information, the distribution of weather forecasts, the co-ordination of healthcare workers, the organising of political demonstrations, the carrying out of surveys and the reporting and monitoring of disease outbreaks.



At the University of Canberra, Senior Research Fellow Dr Robert Fitzgerald has been evaluating FrontlineSMS as a replacement for a commercial application previously implemented in their Cambodia Crop Production and Marketing Project (CCPMP). Since 2006, Robert and his team have been developing an SMS-based market information service for maize and soybean farmers and traders in western Cambodia.

CCPMP research had already highlighted poor communications between the different levels of the supply chain as a major challenge to the agriculture sector in the region. According to Fitzgerald, "We explored various options for the development of an improved marketing communication system and proposed to local stakeholders the development of an Electronic Marketing Communication System (EMCS) based on the use of SMS technology. We undertook a pilot project in which daily grain market information was collected by the Ministry of Commerce and entered into a database that was accessible by mobile phone in Cambodia using SMS."

The pilot project proved highly successful and its impact stimulated further work in a follow-up project funded by the Australian Centre for International Agricultural Research (ACIAR). It was at this point that Robert and his team began to explore alternative messaging systems.

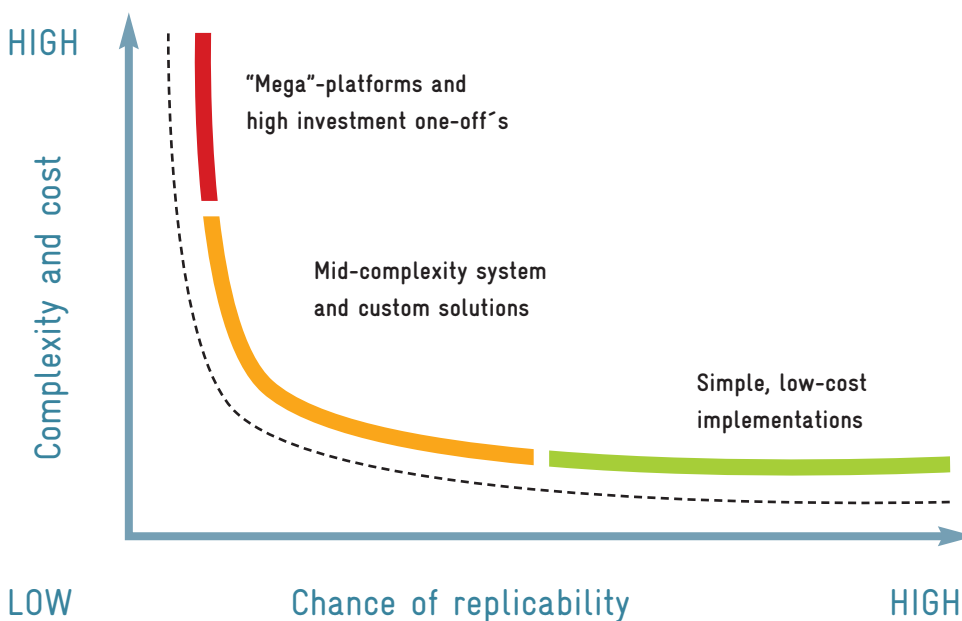


"One of the most encouraging aspects of our early work was the excitement generated amongst farmers, traders, ministry officials, silo owners and potential development partners. The SMS concept was very appealing but we faced a real challenge - we wanted to use this excitement to move from a trial project to a fully fledged operating model but we needed a software application that would ensure the long term sustainability of community-based communication systems. Because the project is working with two NGOs based in western Cambodia, it was imperative that we implemented a cost-effective solution that could be managed by local staff. As it turned out, FrontlineSMS had it all. Not only is it open source but it is simple to install and maintain, and has more functionality than our previous software, all combined with a much better user-friendly interface".

The plan is to install two FrontlineSMS systems in the Pailin and Samlaut regions of western Cambodia. Once these are installed a series of stakeholder workshops will be conducted to better understand the communication aspects of the maize and soybean production and marketing supply chain. Price, weather updates, handy hints will all figure on these systems in addition to standard SMS-based communications.

FrontlineSMS is just one example of how the use of the mobile phone for good causes is on the rise. Today there are more reports on the topic than you could throw a mobile at, and conferences on the subject are being held left, right and centre. The problem is, despite the excitement, in implementation terms at least. We're struggling to scratch the surface, meaning the majority of NGOs, particularly those in developing countries, can all but sit back in awe at the incredible things these little devices are doing. Solutions are tantalisingly close, but without the tools and a practical helping hand most of these NGOs remain passive observers. It's these that interest me the most. They also happen to be in the majority. Let's take a look at the graph below.

SOCIAL MOBILE'S LONG TAIL >>> www.kiwanja.net





The breakdown of the mobile applications space has three categories. Firstly, there are high-end high-cost solutions running SMS services across national or international borders, with little chance of replicability for your average grassroots NGO. These are represented by the red part of the curve and they generally get the highest amount of press exposure. Then we have lower-cost custom solutions, developed by individual (often mid-level) non-profit organisations to solve a particular problem in a particular country or region, or to run a specific campaign. These have a slightly better chance of replicability for grassroots NGOs; they are represented here by the amber curve, and generally get a medium to high level of publicity.

Finally, we're left with the simple, low-tech, appropriate technology solutions with the highest opportunity for rapid, hassle-free replicability among grassroots NGOs, represented in green (even better, take out the need to replicate altogether and actually give them the tools to do the work, a gap FrontlineSMS is working hard to fill). These projects generally get the lowest level of publicity, if any, since few have an international profile of any kind. Notoriously hard to communicate with, and with little or no money, it's perhaps no surprise that most of the attention on the long tail is elsewhere.

In order for the mobile revolution to truly become a revolution, we need to be inviting infinitely more non-profit organisations to the party. So much can be done, but so few are active in this space. Going by my thinking, that means we need to be working on the green, because that's where most grassroots NGOs sit, and that's where help is needed the most.

The Knowledge Sharing Kit: CGIAR's Wiki Approach

by Gerry Toomey



The Institutional Knowledge Sharing (KS) Project, together with its CGIAR centre partners, has been experimenting with a range of KS tools and methods over the past five years, assembling them into a toolkit (<http://kstoolkit.wikis.cgiar.org>). This evolving resource – continually updated, edited, expanded, and critiqued in wiki fashion – is targeted mainly by scientists, research support teams and administrators in the 15 international centres of the

CGIAR. But it also serves their partner organisations, as well as development organisations 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 long-standing 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.

"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 40 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 centres increasingly work in partnership with other R&D organisations. Sometimes this involves large consortia such as global or regional "Challenge Programmes" and "System-wide Programmes" (system being a reference to the research centres funded by the CGIAR). In other instances, the alliance may be with a single organisation 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 organisational cultures. The KS Toolkit provides a range of options for bridging such physical, linguistic, and cultural divides.

The benefits of inter-organisational 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 and documents components of the KS Toolkit, and seeks feedback on them.

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.

Another rationale for developing the tools component of the KS Toolkit is reminiscent of the reply given by the mountaineer who, when asked "Why do you want to climb Everest?" responds: "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 a 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 new-fangled, 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."

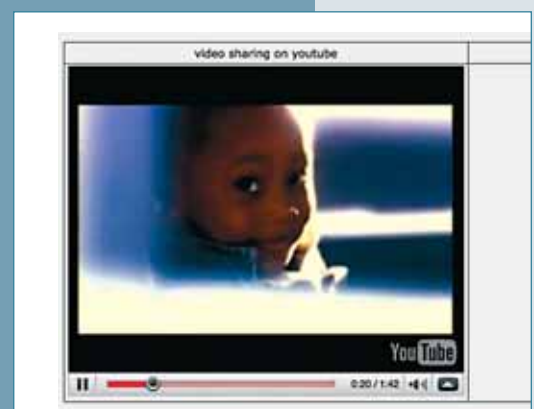
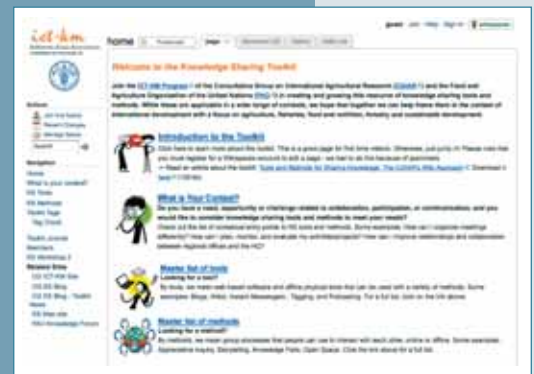
Staiger-Rivas and White both see the KS Toolkit as an "open" resource – one among many that development professionals from around the world can build on and improve. "We're not advocating a single resource that's the be-all and end-all," says White. "Some duplication is good, particularly with web resources, 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."

Gauri Salokhe, Information Management Officer in the Knowledge Exchange and Capacity Building Division of the Food and Agriculture Organisation of the United Nations, is also participating in the effort to build the toolkit.

"We try to make sure that the right information reaches the right people, in the right form and language," explains Salokhe, referring to her division's role in FAO. 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.

"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 organisation's regional offices and headquarters. For that context, she explains that 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.



Knowledge Sharing Tool Kit

<http://kstoolkit.wikis.cigar.org>

- The Toolkit is located at >>> <http://kstoolkit.wikis.cgiar.org>. This Wiki is 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 previous 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 that help people interact effectively with each other, whether online or offline. Some examples: appreciative inquiry, storytelling, knowledge fairs and open space.

Web2share

<http://web2share.pbwiki.com/>

Using the web to share knowledge and information: to communicate, to learn in development

Development organisations are investing in web-based systems and tools to communicate and collaborate, to create, exchange, share, and disseminate development content, and to share knowledge and information. The truly exciting aspect is the way different forms of communication and information sharing can be easily and openly instigated and integrated across the web.

People can more easily generate content based on their own knowledge and experience. They can share through different media; they can select and subscribe to the knowledge of others and can re-combine this knowledge into their own personal services.

The Wiki introduces some "building blocks" - tools and applications - for open information, knowledge sharing and communication in development. It builds on the efforts of ICCO, Euforic and their partners. It supports further investments in these tools and approaches.

While the tools are mainly just technical applications, using them well requires a different mindset that particularly values the content and efforts of other people, encourages collaboration, and makes knowledge open. These three notions are close to the heart of effective development!

GLOSSARY



Blogs:

Originally personal 'diary' sites where individuals post thoughts, comments and reflections. Their potential as simple publishing vehicles has been recognized by organisations like ECDPM, AFD, CTA, ODI, and the World Bank. Providers include >>> www.blogspot.com and >>> www.wordpress.com.

Wikis:

Web spaces that can be edited and maintained by several people. The wikipedia is the classic example, on a large scale. They are increasingly being used behind the scenes for projects and events that need an easy-to-update web space that can be edited by several people. Providers include >>> www.pbwiki.com

Social bookmarking:

Services where individuals can store and index (tag) their web 'bookmarks' across the internet (instead of in their local web browsers). Because they are a useful tool for an individual, such applications are being used by organisations and groups to index interesting web resources; there is also a 'networking' element where a user can track bookmarks of others, making connections and relationships through shared interests.

Examples are >>> <http://del.icio.us> and >>> www.connotea.com.

RSS feeds:

These allow subscribers to receive automatic updates (across the web or by email) whenever a particular content service is updated. Originally used for news, it is now used for all kinds of content and databases. Most core Web 2.0 applications come with RSS possibilities as a standard feature. Other databases and content management systems need to be configured to produce feeds. There are many tools to track feeds, such as: >>> www.bloglines.com or >>> www.google.com/ig.

Mash-ups:

As more and more content is made available through any of the applications above, so there is a growing number of ways that an individual, team or organisation can 'mash' this content up in their own personal ways. This can be a web page with different feeds (see >>> www.iaald.org), a personal home page (at >>> www.google.com/ig), or a map of different information (see example at >>> www.biodiversitylibrary.org/browse/map).

The essential aspect is that 'users' can build their own interfaces and will not necessarily use the ones built for them.

Social networking:

Web-based 'meeting spaces' like >>> www.linkedin.com or >>> www.facebook.com allow individuals and organisations to post information about themselves and meet others with similar interests.

Images, graphics, maps:

The new tools are particularly open to different media. Sites like www.flickr.com and www.picasa.com allow photos and images to be shared, the user can choose how open the content should be and what licenses to use. For videos, >>> www.youtube.com, >>> www.blip.tv and >>> <http://video.google.com/> provide similar possibilities. As with the other formats, this content can be 'mashed' with other types of content and shared through RSS feeds, etc. A final area to mention is the increasing use of maps – such as >>> <http://earth.google.com/> and >>> <http://maps.google.com> where different data and information layers can be displayed.

REFERENCES

Innovation, Interaction, Information: Using the Social Web in Agricultural Development

- Waters-Bayer, A. et al. 2006. Recognizing and enhancing local innovation processes. Paper for Innovation Africa Symposium, Kampala, Uganda, 20-23 November. >>> http://www.innovationafrica.net/pdf/s6_waters-bayer_full.pdf
- Agenda 21 Chapter 40 of the UN Conference on Environment and Development in 1992 argues that everyone is a decision-maker: >>> <http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter40.htm>
- World Bank. 2007. Enhancing agricultural innovation: How to go beyond the strengthening of research systems. Washington DC. >>> <http://siteresources.worldbank.org/INTARD/Resources/EnhancingAgInnovationebook.pdf>
- Uwe Werblow's presentation at the Second European Forum on Sustainable Rural Development in 2007 >>> http://www.ruralforum.info/documents/presentations/wg-3.7_werblow.pdf
- Hall, A. 2006. New insights into promoting rural innovation: Learning from civil society organisations about the effective use of innovation in development. UNU-MERIT. >>> http://www.innovationstudies.org/docs/final_technical_report.pdf
- Waters-Bayer, A. et al. 2006. Recognizing and enhancing local innovation processes. Paper for Innovation Africa Symposium, Kampala, Uganda, 20-23 November. >>> http://www.innovationafrica.net/pdf/s6_waters-bayer_full.pdf
- World Bank. 2007. Enhancing agricultural innovation: How to go beyond the strengthening of research systems. Washington DC >>> <http://siteresources.worldbank.org/INTARD/Resources/EnhancingAgInnovationebook.pdf>
- Science Council. 2005. Science for agricultural development: Changing contexts, new opportunities. Rome: CGIAR. >>> http://www.sciencecouncil.cgiar.org/fileadmin/user_upload/sciencecouncil/Reports/SfAD_Entire_Doc.pdf
- Initially described at: www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html; a compact definition is at: >>> http://radar.oreilly.com/archives/2005/10/web_20_compact_definition.html
- Downes, S. "E-Learning 2.0" >>> <http://elearnmag.org/subpage.cfm?section=articles&article=29-1>
- Ballantyne P.G. 2007. "IAALD 2.0: Sharing Agricultural Information on the Web". Quarterly Bulletin of IAALD 52(3-4).
- The "blogroll" at >>> <http://iaald.blogspot.com> lists some blogs on agricultural knowledge and information.

Farmer-led Documentation

- AGRECOL Andes Foundation. 2006. ICT - Sharing our knowledge through the documentation of our experiences. Documentation of farmers' experiences in sustainable agriculture through the application of information and communication technology (DVD). AGRECOL Andes Foundation, Bolivia.
- Aguilar, L.C., J. François, A. Piepenstock and S. Quispe. 2006. Documentación de Experiencias Campesinas con uso de tecnologías de información y comunicación. Un instrumento de gestión del conocimiento local en agroecología. Cochabamba-Bolivia.
- Bruce, J., N. Karbo, J. Nchor and A. Malex. 2006. Participatory Video on Siella Mineral lick: Community film viewing observed changes in Siella lick development in Wapuli and Chagbani, Saboba -Chereponi District, Ghana. DORCAS Foundation / CSIR / ACDEP, Ghana.
- Lunch, C. and Lunch, N. 2006. Insights into Participatory Video: A handbook for the field. Insight, U.K.
- PROLINNOVA website - www.prolinnova.net.
- Waters-Bayer, A., C. Wettasinha and M. Wongtschowski. 2006. Recognising local innovation: Experiences of PROLINNOVA partners. IIRR, The Philippines / ETC EcoCulture, The Netherlands.

About the authors



Peter Ballantyne

>>> pb@euforic.org

is the current President of the International Association of Agricultural Information Specialists. He is also Director of Euforic – an information-sharing cooperative working to open up and enhance access to information and knowledge on Europe's international development. He is particularly interested in more effective collaboration among development organisations, public access to knowledge and information, and how information and knowledge can be mobilized and communicated to address development challenges.

In recent years he has championed the use of 'Web 2.0' tools to share and access development information.

Ken Banks

>>> ken.banks@kiwanja.net

founder of kiwanja.net, devotes himself to the application of mobile technology for positive social and environmental change in the developing world, and has spent the last 15 years working on projects in Africa. Recently, his research resulted in the development of FrontlineSMS, a field communication system designed to empower grassroots non-profit organisations. Ken graduated from Sussex University with honours in Social Anthropology with Development Studies and currently divides his time between Cambridge (UK) and Stanford University in California on a MacArthur Foundation-funded Fellowship. Ken was awarded a Reuters Digital Vision Fellowship in 2006, and named a Pop!Tech Social Innovation Fellow in 2008.

Gerry Toomey

>>> GeraldToomey@cs.com

is a freelance writer with a strong interest in science for international peace and progress. He has written or edited several publications on knowledge sharing and the use of ICTs in developing countries. He lives in Chelsea, Quebec, Canada, where his Internet connection isn't as fast as he'd like to.

Rolf Kleef

>>> rolf@drostan.org

advises development organisations on internet technology to support online collaboration. Over the last 10 years, he has developed and facilitated online expert dialogues and networking on biodiversity, strategic environmental analysis, public participation, and conservation projects, and has been working with NABUUR on their Web 2.0 strategy and platform development since 2006.

Raul Caceres

>>> info@wecan4peace.org

has been volunteering for NABUUR since 2005, and received the United Nations Online Volunteer of the Year Award in 2006. He was also invited to speak at the Nobel Summit on Public Services in the specialist session "Unleashing the potential of social innovation". He has been involved in projects including the set-up of a bee-keeping operation and a safe water project in Sierra Leone, a dairy cooperative and a farm diversification project in Kenya and a health campaign to prevent Malaria in several African countries. Raul is a Chemical Engineer and holds a MSc from the University of New South Wales in Australia

Dorine Rüter

>>> d.ruter@etcnl.nl

is working at ETC Foundation as consultant / facilitator of learning and knowledge sharing processes, specifically in the context of sustainable agriculture and natural resource management. Dorine is member of the International Support Team of ProInnova.

>>> www.prolinnova.net

Christian Kreutz

>>> ck@crisscrossed.de

is a political scientist working as consultant for knowledge management and information and communication technologies for development (ICT4D). The places he has worked for include the German Parliament and GTZ in Egypt and Germany, where he extended for five years as a project manager and communication specialist. He also has eight years of experience in the field of Internet.

His blog is: www.crisscrossed.net.

Anne Piepenstock

>>> annpi@agrecolandes.org

studied agriculture in Germany. She is the director of AGRECOL Andes Foundation, a networking, information and advisory service in the Andes.

Paula Carrión

>>> pcarrion@infodesarrollo.ec

is a social communicator for development and an enthusiastic ICT4D user. She has a master's degree in Strategic management and ICT. She has been working for almost 10 years in the field of ICT and since 2007 she is working for Infodesarrollo, the National ICT for development network in Ecuador.

Runa Sarkar

>>> runa@iitk.ac.in

is an economist and works as Assistant Professor in the Industrial and Management Engineering Department of IIT Kanpur. Her research interest includes socializing the use of ICT to build social capital in rural areas using the power of knowledge networks.

Debahsis Pattanaik

is a sociologist interested in social shaping of communication technology. Currently he is a postdoctoral researcher in the social sciences group of the OPAALS digital ecosystems project.

Ideas that spread through groups of people are far more powerful than ideas delivered at an individual.

Seth Godin



For me, the ultimate promise of digital technology is that it might enable us to truly see one another once again and all the ways we are interconnected. It might help us create a truly global view that can spark the kind of empathy we need to create a better world for all of humankind.

Michael Wesch



mashup organisations rural participation content RSS
cultivation mobile phone documentation GTZ agriculture
blog resources individuals platform social software
toolkit community mapping collaboration tools web
sharing content ICT4D potential online livelihoods
Knowledge Social Web Wiki
farmers development provide
sharing community technology example research
science feed services users learning volunteers
participatory networking video areas search audio
global mobility data local sharing agriculture

Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ) GmbH
Dag-Hammarskjöld-Weg 1-5
65760 Eschborn
T +49 6196 79-0
F +49 6196 79-1115
E info@gtz.de
I www.gtz.de

