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Using ICTs for knowledge sharing and collaboration: an international experience based on Bellanet's work in the South

Margarita Salas Guzmán

Introduction

Since the dawn of human-kind people have shared knowledge and collaborated with each other to achieve tasks and objectives that were out of their individual reach, to learn from the previous experience of others as well as to transmit their own learning to others. Likewise, whether it was a stone, a wheel, a steam boat or a personal computer, technology has always been present as a tool that extends, with noble or destructive purposes, the horizon of possibilities that people have.

Deep transformations have come with the accelerated development of artificial intelligence and new information and communication technologies (ICTs) in our present society. Global village, technocratic era, information era or knowledge society are just a few of the terms that have been coined to identify and understand the extent of these changes. But while the debate proceeds in the theoretical sphere, reality races ahead (Burch 2005).

In the context of these complex phenomena, there are important consequences if one chooses to centre the debate on the technologies or if one sees the technology as an important means, but just a means none the less, for human processes such as communication, collaboration and knowledge sharing. Many organizations, research centres and institutions who are more in tune with the latter approach have grouped together under the international community of ICT for development, known as ICT for Development (ICT4D). New and old ICTs have powerful symbolic content and, unless specific measures are taken, they reproduce the existing power relationships. Hence, approaching ICTs through the principles of knowledge sharing is a challenge in itself. These principles comprise:

- Trust between the people who share;
- Creating horizontal spaces where every participant's opinion is valuable because it's based on his/her experiences; and
- Prioritising collective creation, placing less spotlight on the individual 'expert' (Zúñiga 2007)

One example of the type of organization that shares this approach, and belongs to the ICT4D community, is Bellanet [www.bellanet.org], an International Secretariat of the

International Development Research Centre (IDRC), Canada, created with the mission to promote and facilitate effective collaboration and knowledge sharing within the international development community, especially through the use of ICTs from its four offices in Ottawa, San José (Costa Rica), Kathmandu (Nepal) and Kampala (Uganda).

Bellanet was created to respond to the need expressed by many organizations to work more closely with each other and with other stakeholders in order to increase the effectiveness of their efforts. Bellanet's early years ran parallel with the expansion of the Internet as a global communication medium, and the organization's learning curve has kept pace with technology advances, including the proliferation of collaborative technologies and platforms. Realizing very early the implications of the digital divides, Bellanet has made it a priority to find practical ways to enable people in the South with limited Internet and web access to collaborate online with others in their field and to engage in global development dialogues.

Bellanet's work in the global South is the example on which this case study will be based, presenting concrete experiences, lessons learned throughout the years as well as some questions and challenges that have been identified in the field.

Bellanet's work in the global South

Working within a collaborative model to build capacity in the South, since 2003 Bellanet has been directing resources to strengthening its presence in Latin America and the Caribbean (LAC), Asia and Africa, in order to increase its ability to directly respond to the needs and realities of the development community in the South.

The expansion of Bellanet's presence in the South came with challenges, such as the integration with the host organizations in the regions. Agreements were drawn up in each case, outlining the mission and vision, target groups, strategic and operational plans, and relationships with the different stakeholders in each of these organizations. Because Bellanet establishes its regional offices within organizations that are like-minded and which also, to some degree, are working in the same field, top priority is accorded to defining Bellanet's niche so that it is adding value to local initiatives rather than competing with them or duplicating them.

Within Bellanet, the process of decentralizing decision-making regarding programme priorities entails a new approach to governance, human resources management, planning and communications. The idea is to forge a horizontal network in which all the regions can participate in determining the future of the organization on equal terms. Team members have worked hard to create a multicultural, multilingual, and above all, diverse Bellanet.

Bellanet Africa is hosted in Uganda at AITEC - Advancing ICT Knowledge in Africa [www.aitecafrica.org] Uganda; Bellanet Asia is hosted in Nepal at the South Asia Partnership - International [www.sapint.org] and Bellanet LAC is hosted in Costa Rica at Sulá Batsú [www.sulabatsu.org], a self-managed workers' cooperative.

For the purpose of this case study, three concrete experiences (one per region) are presented on the use of ICT for knowledge sharing and collaboration. Based on these examples, as well as Bellanet's experience in general working in this field, some collective reflections, lessons and challenges are identified.

Figure 1: Workshop on Cooperative Management Model in LAC

Knowledge sharing workshop in La Catalina[1]

In Latin America and the Caribbean, the cooperatives, producer associations and worker unions have come together in what has been called the social-solidarity economy movement[2]. In Costa Rica, a Centre for Knowledge Sharing was created, for the region of Central America, Mexico and the Caribbean. This centre is called La Catalina [www.lacatalina.net] and Sulá Batsú, jointly with Bellanet LAC, implemented during 2006 its inaugural programme.

In January, as part of that inaugural programme, Bellanet LAC and Sulá Batsú held a knowledge sharing workshop in La Catalina, about the management model of the social enterprise, and how a new development economic model for communities has to be driven by values and common aspirations. The workshop had a particularly high attendance, approximately 120 participants, both international as well as from the different provinces in Costa Rica

Since the knowledge sharing approach relies on very participatory techniques and often includes break-out groups, the facilitation team wanted to address, in an innovative way, the challenge of showing the whole group the discussions that took place in other subgroups without recurring to plenary sessions. Since the Sula Batsú-Bellanet LAC team had sufficient ICT skills related to audio-visual production, they

decided to harness that potential and create a short video that would be presented to the plenary. In 5 minutes, this video would give everyone a flavour of the main issues that had been discussed throughout the day.

The Sula Batsú-Bellanet LAC team had the necessary basic equipment (cameras, digital recorders and editing software), hence they decided to form a small multimedia taskforce to produce media during the event. It was very important to be able to have a product by the end of the first day, so that it could be presented and act as a key input for the sessions and discussions of the second day. The multimedia taskforce took professional quality photos during the event, documenting it and, at the same time, trying to produce more specific, 'action' photos to include in the multimedia materials. They also made some short videos with some of the participants (with the recording function of regular digital photography cameras), specifically trying to cover the people who do not participate fully in the sessions, or those who are too shy to speak in front of the group but feel comfortable in front of the video recorder.

The taskforce had problems with editing video files to good quality because they did not have enough RAM in the computers. However, the team decided that having the video on time was more important than having a very high quality edition. Hence, they compromised and delivered a first cut at the end of day one. The participants were very pleased with the result, and the video helped summarize the work that had been carried out throughout the first day. New issues that had not been considered collectively were raised and put into the agenda of the second day.

During the second day, the taskforce continued their documentation work and integrated the inputs into their prior presentation. They were able to present a video clip of approximately 5 minutes to the participants and had also developed a basic interface to access all the video files, the audio files, the documents generated on the event and the video clip itself. This second presentation had a two-fold purpose: acting as a closing stimulus for the participants that were present as well as providing them with excellent reference material to take home to their organizations [available at: www.lacatalina.org/modelogestion].

Example 2: Local Agricultural Content in Uganda (CELAC)[3]

The Busoga Rural Open Source and Development Initiative (BROSDI) is one of the initiatives developed by the AITEC Development Group, the host organization of Bellanet Africa. BROSDI aims at using ICT methods and knowledge sharing to enhance poverty reduction and food security. Within the BROSDI initiative there is a project called Collecting and Exchanging Local Agricultural Content (CELAC). The major objective of the CELAC Project is collecting already existing local content that is not documented but is very useful to the farmers.

When rural farmers have problems it takes very long for the extension workers to reach and provide them with technical assistance, so often it is too late: they may lose their crops or their animals die. Farming is a very long-standing tradition and, of course, throughout the history of Uganda, a lot of good practices have been implemented to cope with the many challenges a farmer may face. However, it is important to take into account the fact that the culture of oral tradition is prevalent in

Uganda, so traditional knowledge usually gets passed around by word of mouth. If somewhere, somehow the link gets lost and the stories and practices are not told, there is no record of them. So although the oral tradition has preserved some of the farming knowledge, much of it has also been lost.

Figure 2: CELAC Project, Uganda

One of the knowledge sharing mechanisms of the CELAC Project is a knowledge fair, where farmers from districts within the CELAC network come together to share knowledge and innovations they might have come up with. The knowledge fair was the space where the CELAC project introduced the farmers to new uses of ICT collaborative technologies that could take their oral traditions to another level of sharing: for example, by mobile telephony.

Farmers in Uganda are more responsive to mobile telephony than to any other type of communication technology. Mobile telephony is accepted because it is easy to manipulate. For example, although the buttons are in English, people can talk or send text messages in a local language. The costs of cell phone telephony are accessible to farmers and they are tending to descrease which will make them even more accessible.

Taking these factors into account, the CELAC project gave the farmers in their network mobile phones and explained to them that the main purpose would be receiving farming information and sharing it. If the farmers had information to share, they could also send it in. For example, there was a farmers' group in one of the districts of Uganda who had the challenge of caterpillars eating up the leaves of their potatoes. They tried modern methods of spraying the caterpillars, without success. In the process, the chemicals ruined their crops and soils. However, there was a woman

in one of the communities who had a traditional solution to the problem. Project CELAC interviewed this woman and sent out the information via sms. When the farmers that are part of the network obtained this information, they were able to put a stop tp their caterpillar problem.

Also, in order to address the challenges facing mobile telephony, such as the sporadic nature of the network availability and the signal, Project CELAC devised strategies to use audio without depending only on connectivity. They organized a face to face interview session using a talk show format on the topic of how mobile phones have really impacted on development and networking of rural area farmers. The session was recorded using irivers and taken to the farmers by way of CDs and tapes. Entire communities came together around radios and CD players to listen to the information and were very excited. Then Project CELAC was also able to upload them on a website and the local radio stations took the files and played them over again which enabled many communities to have access to the information and discussions. [www.celac.or.ug]

Example 3: the Asia Commons Conference

The Asia Commons Conference[4] was held on 6-8 June 2006, in Bangkok. Through an exchange of experiences and knowledge, the Asia Commons Conference brought together participants to:

- Increase understanding of the effects of copyrights and patents;
- Conceptualise locally relevant models for collaborative creation and dissemination of knowledge and culture;
- Enhance partnerships to build collaborations through collaborative projects; Identify information gaps and further areas of research; and
- Contribute towards the production of materials for wider dissemination and decision-making.

The coordination team for the conference was made up of 6 people who came from 3 offices: 2 in Ottawa with Bellanet International, 2 in Kathmandu with the South Asian Partnership International, and 2 in New Delhi with the Centre for Science, Development and Media Studies (CSDMS). The geographic and time-zone spread of the team was in itself a motive for using ICTs to collaborate. Although members of the planning team had varying comfort levels with technology, they had to rely on ICTs to arrange or conduct some meetings. In addition to the small advisory group and the planning working groups, the larger group of conference participants was brought into the planning stages through online dialogue and wiki, enabling them to change the agenda on global intellectual property rights even during the conference.

Conference participants were from all over the Asia-Pacific region. As a result, the coordination team wanted to include, as much as possible, participants who could not physically attend. They also wanted to keep things simple because of connectivity limitations. To this end, they set up a mailing list (using dgroups), used chat/instant messaging, wikis and blogs to meet communication and coordination needs.

Because of the conference theme, there were a lot of technology savvy people present so the Asia Commons team felt that the level of experience with technologies was high enough, and they therefore decided to incorporate the use of wikis and blogs for knowledge sharing. Chats were used to bring in distant participants, however this was not something that was planned, it was an initiative from the participants that was taken on by the Asia Commons team.

The wiki was a familiar technology to most of the attendants. Even so, the Asia Commons team thought it would work well to have a person to provide continual technical assistance with the wiki and the blog in the room where the computer stations were set. Also, they planned specific activities in which wikis would have a role, such as to capture collective notes from the open space sessions by encouraging participants in the session to take and share their notes. The result was that some of them focused on this task while others were having chat sessions to bring in distant participants, placing summaries of their conversations in the wiki instead of the notes from the face to face.

Regarding the use of blogs, the Asia Commons team had a person specifically designated to be the conference blogger, which worked well. The purpose of the blog was to capture personal views and 'a-ha' moments or issues that people did not feel comfortable putting on the wiki, since anyone could edit the wiki. The Asia Commons team provided participants with a sheet of instructions to blog and as soon as people uploaded posts, they appeared on the front page of conference blog [www.asia-commons.net] which was the conference website. This motivated participants to blog because it was very visible and recognized.

Finally, the purpose of using a dgroup was to have a discussion between participants and actually get people thinking and talking about the conference themes before they arrived. The Asia Commons team came up with a set of questions to think about and resources to rely upon (documents and articles) in case participants were new to any given topic. This purpose was fulfilled and abundant discussion took place. However, the Asia Commons team also wanted to maintain communication through the dgroup after the conference and this did not work out. There was some exchange online during the first week, but it quickly stopped because no-one was formally designated to spark up the discussion and follow-up.

Reflections and lessons learned

The experiences presented above are examples of different roles ICTs can have in collaboration and sharing processes. In the first example, ICTs were used for documenting, building a memoir of the process, and feeding the knowledge sharing process. In the second example, ICTs were chosen and adapted to meet a cultural practice: the oral tradition that is so strong in Uganda. The third example, the Asia Commons Conference, showcased a very effective use of technology to overcome distances. An international conference requires tools that create spaces to discuss, share information, build agendas and foster collaboration. From these examples as

well as Bellanet's long experience working with ICTs to foster collaboration and knowledge sharing, stem the following reflections and lessons learned:

Documentation is key
In knowledge sharing, documentation is key to making a record of the explicit knowledge built collectively, for which photographs, videos, copies of presentations, transcripts and documents from an activity are very important. All of these materials – visual, audiovisual or digital – tell the story of what happened, gather information that was shared or created, and enable us to remember what was built, as well as to tell it to others who were not present.

Technology needs to serve the knowledge sharing process
Technology should not be introduced in a collaborative or sharing process if it is seen as an accessory, something cool but not useful. Hence it is important to assess first the specific needs of the project, activity or event. Also it is key to choose tools that are familiar, easy to use, available and useful. Finally, we recommend getting in the 'geeks', namely technologically savvy people, because since it is extremely helpful having technology champions who can provide support and instruction on effective use of the tools.

Representation of social relationships
There are social relationships that affect the way ICTs are woven into knowledge sharing. These issues range from the place of the individual within the group to the group's relationship with other groups. For example, in situations where individual participants represent groups, institutions and organizations, as is often the case, it is important to keep a balance between the inputs of individual participants and those of their networks or institutions. ICTs can help visualize that relationship and bring into the collective process any inputs from the larger groups that are represented, using blogs, wikis, web forums or chat groups.

Local context
Localization is another important issue that refers to the adaptation of global knowledge and technology to the local cultural and linguistic context. Adapting the local visual, auditory and symbolic language is essential, not just for the sake of clarity. Messages and communication need to use symbols, images and wording that are relevant to the group because foreign or distant symbols may inhibit the sharing process, particularly when people face new or unknown technologies. Also we must take into account the different communication styles of each culture as well as the ways in which they handle trust, because these are key elements for collaboration.

Ownership
If we want participants to see themselves as producers, we should enable them to appropriate the process, to recognize themselves and their ideas in the media used. Materials that are too elaborate and do not allow change or intervention from participants may come over as distant or foreign. Select, rather, means that are simple, exchangeable, easy to reproduce and multi-functional. Hence, participants can decide which form the media will take and what ideas they will represent.

Challenges identified

The global South does not have the same conditions as the North to access, use and appropriate technologies. Most of our countries do not have the infrastructure, connectivity or training necessary to take full advantage of ICTs. Saying that the Southern countries are 'under-developed' is a euphemism: we are economically poor, hence the prices to access technology are higher than what most people in our countries can pay. This reality poses a key challenge before us: technological fascination is not an option for us, because we rarely have the resources to adopt technology for the sake of it.

Although digital media and multimedia can be an integral part of knowledge sharing and collaboration processes, we must weigh both the potential and the weakness of such media. We have found it important to keep in mind the purpose of the media that we prepare. To strike a balance between prepared materials and knowledge sharing is an ongoing challenge, shifting to meet objectives. Often enough materials that were prepared or technologies that are available are not used because the dynamics of the workshop or event changes, and thus the media becomes irrelevant or inappropriate. ICTs must always have a function, a direct relation to the achievement of the goals, and the incorporation of technology must be planned carefully so that they are relevant and not merely decorative.

For participants to transform technology itself, they need enough familiarity and technological manipulation skills, which in turn implies a previous capacity building process that is not necessarily possible in all regions. This hinders the possibilities participants have of manipulating and transforming ICTs to decide what role they will play in knowledge sharing and collaborative processes.

The use of ICTs for knowledge sharing and collaboration must be also examined from a gender-aware perspective. The opportunities men and women have had historically to become familiar with ICTs and receive training has been unequal. There are still many women in the global South who feel uneasy using these technologies; this may hinder their participation in the knowledge sharing process. We feel there is still a lot of capacity building to be done, together with adapting technology use so that it promotes the empowerment of women and takes into account their specific needs and context.

Conclusions

ICTs have great potential in knowledge sharing and collaboration, although there is an immense challenge to use them in a meaningful and coherent way. It is also important to use technology that is economically feasible, in tune with knowledge sharing and collaborative objectives, and that always prioritises the ideas, hopes and motives of individuals and groups in their context.

There are important differences in the challenges each region has, as well as the strengths it can harness. For example, Bellanet Africa reports that oral tradition as well as connectivity have limited direct online interaction, for example, undermining efforts to create participatory spaces through the use of Dgroups. However, they have also found that ICTs which favour audio-visual resources have strengthened the capture of traditional oral knowledge. On the other hand, although Asia also faces training constraints, Bellanet Asia has sometimes been able to use wikis on-site in workshops where participants are technologically skilled. In Latin America and the Caribbean, the regional office has often turned to low technology materials for direct use by participants, while staff themselves use new ICTs.

One element that was found to be cross-cutting throughout Bellanet's experiences in the South was that much capacity building still needs to be done in order for all regions to unleash the full potential of ICTs in knowledge sharing and collaboration. An important element to move in that direction is approaching ICTs with a hands-on, experimental attitude, thinking 'outside the box' to adapt and transform them so that they answer to the needs and realities of each community. Also, the combination between new and old ICTs (such as radio) is a good way to overcome some of the connectivity limitations that are still a reality in most of the global South, where creativity has often taken the place of availability.

Abstract
Bellanet International Secretariat is a multi-donor initiative created with the mission to promote and facilitate effective collaboration within the international development community, especially through the use of information and communication technologies (ICTs) from its four offices in Canada, Costa Rica, Nepal and Uganda. Bellanet has put its efforts into ways of collaborating and tapping into knowledge that can be shared by people, using both digital-based technologies and face-to-face methods. By participating in sharing processes, individuals, organizations, and networks in international development can create new knowledge that is meaningful for their context and that solves their needs. Knowledge sharing can increase accountability, reduce duplication of effort, and lead to better use of development resources. Three concrete experiences on the use of ICTs for knowledge sharing and collaboration are presented: a knowledge sharing workshop in La Catalina, Costa Rica; the Collecting and Exchanging Local Agricultural Content Project in Uganda; and the Asia Commons Conference which took place in 2006 in Bangkok, Thailand. Lessons from these three case are presented, together with some future challenges facing the use of ICTs in the global South.

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About the author

Margarita Salas Guzman is a Programme Officer for Bellanet International's regional office in Latin America and the Caribbean. Prior to that, in 2003, she was a Project Assistant for the area of online Learning Communities at Fundacion Acceso. She is a member of the Colectiva por el Derechoa Decidir, a feminist group of women committed to defending, promoting and vindicating women's rights to fully decide over their own sexuality and reproduction by processes of political advocacy, research and networking. She earned her BA degree in Psychology at the University of Costa Rica in 2002.
E-mail: msalas@bellanet.org

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[1] Description of the workshop based on direct conversations with Lena Zúñiga, as well as a blog entry available online at http://blogs.bellanet.org/index.php?/authors/15-Lena

[2] Includes organizations that carry-out economic activities linked to cooperation, that's organized by citizens themselves in enterprises based on democratic values and management models. Such organizations have as basic principles: serving the best interest of its membership (instead of just generating profit), autonomous management and democratic decision-making, as well as prioritizing people and work over capital. (Camacho 2007)

[3] Description of the CELAC initiative based on an interview with Abubaker Basajjabaka, from Bellanet Africa - AITEC, as well as from the project website: www.brosdi.or.ug

[4] Description of Asia commons based on interview with Sara Kerr, from Bellanet International, also through internal project wikis and from the conference website, www.asia-commons.net