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Use of Virtual Platforms for Knowledge Management and Sharing: the experience of Cuso International in Latin America (KEDLAP Project)

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Abstract

This paper documents the experience of Cuso International and CEBEM in managing a virtual platform for the KEDLAP (Knowledge for Effective Development Learning and Practice) program in Latin America. It illustrates the importance of embedding the VP's objectives, functions and supporting tools within a wider Knowledge Management (KM) strategy, and how successful VPs require extensive technical and content support and facilitation. The paper concludes by citing some of the development and learning outcomes that the program achieved.

A) Introduction

This paper focuses on KEDLAP (Knowledge for Effective Development Learning and Practice), an initiative of Cuso International in Latin America. KEDLAP was intended to pilot a series of knowledge-management and sharing approaches and tools, with a view to testing the Latin America and Caribbean programme's knowledge-based programming approach and enriching wider organizational learning.

In November 2011, CUSO-VSO was re-launched as Cuso International and restructured the organisation's relationship to the VSO International Federation. At both levels, the organisation is currently undergoing a process of strategic change, which includes reviewing the institutional approach to, and tools for, knowledge management and sharing.

The IDRC Learning Forum on information technology for knowledge-sharing is therefore extremely timely, enabling not only learning from the KEDLAP project but also other IDRC-supported initiatives to enrich the overall organisational reflection and strategic change process in relation to knowledge management and sharing.

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B) Knowledge Management Strategy

As outlined in the organisation's five-year plan, *Empowering People to Fight Poverty through Partnerships*, knowledge management and sharing is a key component of Cuso International's overall development programme strategy, especially in the objectives of building local capacity to fight poverty and exclusion, increasing policy influence, and engaging Canadians on global issues.

A fundamental assumption of Cuso International's programming approach in Latin America and the Caribbean is that capacity building and technical assistance will achieve better results within a collaborative learning network process that includes different organizations that work in the same thematic area. An integrated and inclusive learning process allows these organizations and stakeholders to access new knowledge and capacities that do not exist internally.

The KEDLAP initiative sought to test these assumptions and objectives, as well as the tools used to achieve those objectives. KEDLAP was a pilot project involving volunteers, partner organisations and programme staff in the organisations' regional *Protecting the Environment – Managing Natural Resource Programme*, specifically with the five-member *Ibero-American Model Forest Network (IAMFN)*, a major regional partner of Cuso International.

Cuso International developed the mechanisms and tools in conjunction with three project implementation partners (a.k.a. "Project Associates"), each with specific knowledge management and sharing expertise:

- the Bolivian Centre for Multidisciplinary Studies (CEBEM);
- the Tropical Agricultural Research and Higher Education Centre (CATIE); and
- the Sula Batsú Cooperative.

The Secretariat of the International Model Forest Network (IMFN), which was developing a knowledge management strategy at the outset of KEDLAP, was also a vital ally.

One of the characteristics of the pilot project was that it envisaged the active involvement of – and benefits for - partner organisations, specifically the Model Forests.

Operationally, the main activities of the project involved:

- setting up a virtual platform with components that would facilitate information management on issues identified by programme stakeholders; and
- promoting knowledge management and sharing processes based on exchange, learning and research.

KEDLAP's main objectives were:

- **building a comprehensive body of knowledge** to support the learning process and networking actions;
- **deepening the knowledge base** through research, analysis and systematization to deepen the understanding and capacity of participants in the collaborative learning network (CLN). This would allow them to propose and implement successful development initiatives that are more effectively managed, sustainable and that generate a positive impact on community well-being;
- **collaborative learning opportunities** to implement methodologies and tools that create synergies between members of the learning network and build on the growing body of knowledge to enhance learning and active mutual accompaniment;
- **mobilising the learning network:** to establish and strengthen dynamic spaces and mechanisms that will be sustainable over time, for participants to exchange explicit and tacit knowledge, and to support each others' learning processes; and
- **monitoring the learning process:** to establish a monitoring and evaluation process that will enable CUSO and project stakeholders to assess the success of each of the components of the project, and the collective learning network as a whole; specifically: its relevance to the project stakeholders' objectives, its effectiveness in improving their knowledge and learning capacities, the relevance of improved capacities for enhanced development impact, and the potential of the approach to be applied in other program areas.

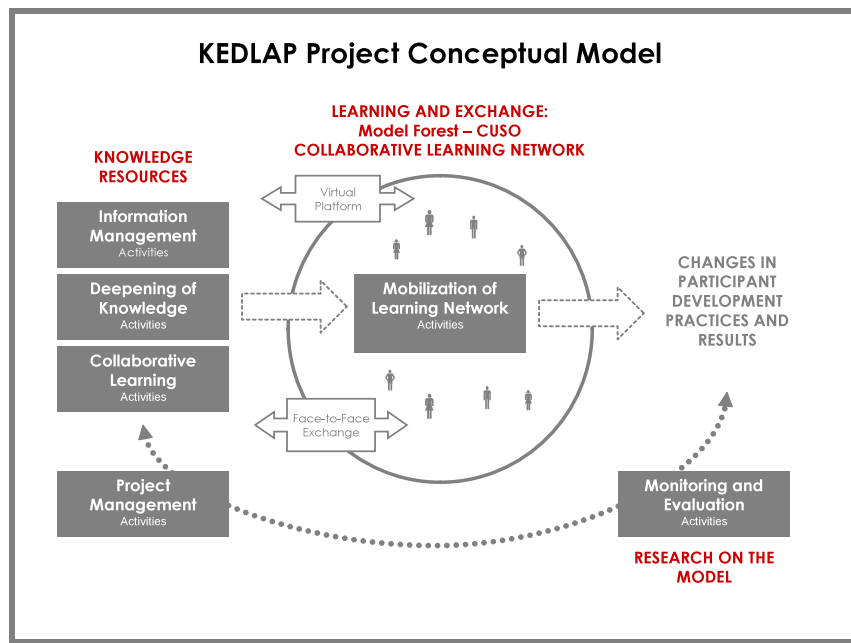


Figure 1. KEDLAP Project Conceptual Model

C) The Role of the Virtual Platform

When Cuso International (then CUSO-VSO) initiated the KEDLAP project, the organisation already had access to a number of virtual information management and knowledge-sharing tools, including:

- Vision and PORT (extranets for staff),
- VolZone (virtual platform for volunteers),
- FROND and Starfish (remote databases for volunteer placement and recruitment information management), and
- VSO Communities (online interactive fora, currently suspended for reconstruction)
- Public websites, later incorporating links to Facebook, Twitter and YouTube channels, podcasts and blogs.

While these tools were highly useful for the specific purposes for which they were created, none of them was ideal for facilitating the access to and sharing of development knowledge of programme stakeholders in the Latin America and Caribbean region.

Thus, Project Associate CEBEM was charged with establishing a virtual platform for the project, in view of their experience of facilitating online knowledge communities such as REDESMA and e-learning. As outlined in Figure 1, the online platform was envisaged as an interactive space that would complement face-to-face exchange mechanisms. The platform sought to fulfil a number of roles to meet the objectives of the project and provide a space to:

- gather, organise and disseminate key explicit knowledge resources relating to the thematic interests of the main programme stakeholders (information management and mediation);
- identify key knowledge resource people (knowledge networking);
- allow participants to interact and exchange tacit knowledge (knowledge facilitation); and
- engage in structured online collaborative learning, through an integrated link with CEBEM's e-learning platform (capacity building).

The platform was not intended to replace the use of e-mail and other means of digital communication such as social media (e.g. Facebook, YouTube). Rather, we envisaged that Cuso volunteers (cooperants) would play a vital role as knowledge facilitators in maintaining and enriching the content and dynamics of the platform and motivating use by other users, with CEBEM's facilitation role diminishing over time.

D) Functions of the Virtual Platform

In order for the platform to perform its information management and mediation roles, the project focused on setting up a system that would allow for gathering, classifying, organizing and disseminating a body of relevant information on Model Forest issues. This system, however, had to incorporate Web 2.0 features to create dynamic, participatory bridges between users so that they could not only receive information, but also gather and store different types of documents, and make them available to a community.

To create this kind of VP, CEBEM investigated the potential of different Open Code and limited-use/licensed content management platformsⁱ, including Joomla, Mambo, Php-nuke, Drupal or paid software such as Jadu or Dotenetnuke. Eventually, they decided that the KEDLAP portal would function best on an open code *eZ Publish platform*ⁱⁱ, supported by a set of eZ Components libraries. The system is a collection of general-use libraries that control the basic functions common to most websites, including: authentication, database management, searches, e-mail management, file management and image processing.

This collection of libraries in turn becomes the basis for the development and functioning of other applications on the same server. The system used in KEDLAP integrates a database, a collection of libraries and templates and an administration interface, resulting in what the public sees as the KEDLAP portal, <http://kedlap.cebem.org> .

The advantages of working with this system include:

- editors and designers can work separately without leading to conflicts;
- publishing the same content in different formats is easier;
- simple content transfer and reuse is made possible;
- site design changes can be applied more quickly, making specific changes in a few files instead of rebuilding the entire site;
- it has the capacity to publish and modify contents using only an Internet navigator, without the need for additional programs (compatible navigators: Mozilla Firefox 3.0 and 3.5, Opera 9.6, Microsoft Internet Explorer 8.0 and Safari 4.0);
- it can import contents edited in compatible text processors (e.g. Microsoft Word and Open Office) to permit participation of users with limited network connectivity;
- tools for enabling content translation (in case a multilingual portal is desired);
- multimedia support for creating image, sound and video galleries;
- incorporated web 2.0 tools (labels, comments, resending of articles, voting system, surveys and blogs); and
- incorporated search functions.

E) Contribution of the Canadian Partnership Grant

An IDRC Canadian Partnership grant provided two years of funding that enabled Cuso International, with the support of CEBEM, to set up, develop and evaluate the project's virtual platform, alongside other knowledge creation, management and sharing activities supported by the IAMFN secretariat, CATIE and Sula Batsú.

The intention of the grant was not to fund ongoing institutional knowledge activities – including maintenance of the platform, which, to be sustainable, need to be resourced from regular institutional budgets. Rather, the intent was to observe and learn from new approaches to knowledge management and learning, with a view to ensuring that the wider knowledge strategies being developed would be more relevant, effective and resource efficient.

In this respect, IDRC's support for complementary activities, including diagnostic studies, face-to-face exchanges and workshops, and evaluative processes was essential to support systematic learning on the relevance and usefulness of virtual knowledge management and sharing mechanisms. An important non-financial aspect of the IDRC grant was ongoing accompaniment by the IDRC staff and access to relevant resources through the IDRC library and facilitation of knowledge-networking between projects.

This support also enabled the project to be very adaptive, applying learning to decision-making during the course of the project in a highly participatory way. For the wider organisation – as well as the other partner organisations involved – this meant that the failures or successes of the project and the virtual platform were seen as equally-enriching learning opportunities.

F) Evolution of the Virtual Platform

Initiating the virtual platform took much longer than originally envisaged, given the aim of establishing a highly-interactive and participatory tool, and given the basic information-technology culture of many of the target users. Based on an initial survey of user needs and expectations during the first quarter of the project, and a wider, similar survey conducted by IMFN Secretariat, CEBEM looked for relevant, inexpensive (open source) software which would provide a range of basic functions. They tested the prototype with a key group of users during the project's second quarter, making changes to the overall structure and aesthetic of the platform as they went.

To administer and facilitate the virtual platform, three major and sustained actions were taken throughout the course of the project.

1. **Adapt and prepare a user manual for KEDLAP.** The expanded eZ-Publish manual was adapted to the needs of the project and its users so that they could, by means of clear, simple steps, operate the portals main functions. This document is available in the portal itself.

2. **Train users to autonomously use the portal.** Several rounds of training for different portal users were conducted, using practical exercises in group dynamics; face-to-face training was also carried out taking advantage of a meeting/seminar in Costa Rica. The training topics included: a description of the portal, access to the portal, editing functions, text editor, version management and common information completion tasks.
3. **Providing technical assistance.** This refers to not only server maintenance, system updates and security but also user guidance in how to store and organize information in the portal. Throughout the project this assistance has been of great help in speeding up the process of visualizing information, and has made possible a sort of ongoing training and discovery of the system's properties.

A second training session was held in February 2010 with 15 people and in May 2010, cooperants in the MFs facilitated another e-learning training session for newly registered users.

However, by the end of the first year of the project, the platform was still not being used interactively nearly as much as had been envisaged and CEBEM was still playing a leading role in facilitating platform content. Moreover, monitoring statistics revealed that information on the platform was being accessed much more regularly by outsider users than by many of the project stakeholders.

A subsequent mid-term monitoring and evaluation exercise brought to light a number of barriers to use, including:

- the users' local connectivity problems;
- the perceived complexity of the tools offered by the platform; and
- the consequent need for training and assistance in its use (a significant deterrent).

At that time, many users preferred a much simpler interface combined with use of other popular social media like Skype, Facebook and e-mail.ⁱⁱⁱ In the meantime, the project's Steering Committee used the feedback on the platform to make some key decisions that would motivate greater interaction between project participants, both on and off the virtual platform.

Two other important lessons were:

- it is not always possible or desirable to combine technical (i.e. technological) facilitation and moderation with more content-focused facilitation of knowledge interactions between users; and
- to create a volunteer co-operant position specifically charged with facilitating content generation and exchange (a position that was later supported by similar positions in each of the participating Model Forests).

The e-learning component also evolved over the life of the project. Initially, the project's Steering Committee had envisaged adapting CEBEM's Moodle-based e-learning platform to the Cuso International context. At the mid-term evaluation point, however, before

specific e-learning activities had commenced, it became evident that a more resource-efficient approach would be to use CEBEM's existing capacity. This could be done simply by including a link to CEBEM's virtual campus and providing a mechanism to enable project participants to engage in CEBEM's online courses. They also created a course, run through CEBEM's virtual campus, specifically designed with programme stakeholder needs in mind (e.g. resource mobilisation). Without a doubt, this was one of the most successful collaborative learning activities of the project.

The final project evaluation process revealed further lessons to adapt and refine the VP that will be completed after the reorganization of Cuso International and its regional programme. In the meantime, the platform continues to be housed by Cuso International partner CEBEM in coordination with Cuso staff.

G) Outcomes of the VP

The experience of establishing, using and adapting the KEDLAP virtual platform has generated outcomes at two levels:

1. Development Knowledge Outcomes

The KEDLAP program generated the following development knowledge outcomes that are of most interest and use to programme stakeholders and other thematically related actors:

- a. Partners and volunteers were better able to access selected, organised information (knowledge resources) on issues identified as relevant by programme stakeholders.** These issues included: land-use planning, sustainable production and marketing, climate change, forestry issues, Model Forest management and resource mobilisation, amongst others. These resources were generated both within and outside of the Model Forest learning-related community.

While access and distribution could have been achieved through other means (e.g. e-mail, resource section of institutional website), the virtual platform allows the resources to be more permanently available and affords the opportunity for registered users to provide feedback and link the resources to other virtual knowledge sharing tools.

The link to CEBEM's virtual e-learning platform also greatly expanded the participants' access to a wealth of other related resources (e.g. the production of resource mobilisation strategies as a product of the online fundraising course).

- b. Greater dissemination of partner and volunteer knowledge resources at low cost.** Monitoring of platform usage by external users (i.e. via the number of downloads) revealed a high level of interest in knowledge resources stored in libraries. The many requests for registration suggest the potential for expanding

the learning community to collaborators outside the existing Model Forest network.

- c. **Strengthening of collaboration between Model Forest partners on issues of mutual interest and complementary need/expertise.** This was not only a direct outcome of the virtual platform, but occurred when the knowledge facilitators promoted specific mechanisms to encourage Model Forest partners in different countries to collaborate on knowledge resources featured on the platform.^{iv}
- d. **Strengthened “learning culture” within and between programme stakeholders.** Although not due solely to the virtual platform, this outcome was supported by a dedicated discussion forum on the platform.

It should be noted, however, that evaluative activities embedded in the project also highlighted a potential negative outcome or risk in that knowledge sharing was almost viewed as an end in itself that absorbed a disproportionate amount of organisational time and effort. In general, a key lesson of the project was the need to place more emphasis on knowledge application (i.e. decision-making and action) that creates real value and productive change in the organisation.

2. Learning Outcomes

The KEDLAP experience also illustrated some more generalizable learning outcomes about the use of technology for knowledge management and creation, including:

- a. **Specific knowledge management and sharing activities are more powerful when they complement each other and are strategically linked within a longer term process of achieving concrete results.** A virtual platform provides a potentially-useful mechanism to support this to the extent that it is designed and maintained to provide a space to connect, integrate and build on discrete knowledge activities. The KEDLAP virtual platform, however, has not yet fulfilled its potential in this respect.
- b. **Virtual platforms can be useful, but are not sufficient in themselves; they need to be complemented with face-to-face exchanges and other learning processes.**
- c. **Digital tools must be appropriate to the technological reality of the participants and adaptable to their diverse culture(s) and language(s).**
- d. **Facilitation at the level of the whole community is fundamental, particularly in the initial stages.** Volunteers (cooperants) can usefully play this role on and off the virtual platform. For this they need a particular set of skills, experience and attitudes, which has implications for the recruitment and placement training processes.

- e. **The success of the virtual platform requires a clear and shared organisational concept of knowledge management and sharing, and clarity on which community of learning and/or practice the virtual platform is trying to serve** (and thus, the main focus and purpose(s) of the platform). In the case of the KEDLAP platform, these definitions were rather complex at the outset, especially in relation to a relatively small actual community, and continue to evolve over time. This led to a lower and slower use of the platform than originally envisaged.

H) Effectiveness and Efficiency of the VP

The KEDLAP project's experience suggests that it is important not to overestimate the potential importance of a virtual platform within an overall knowledge management and collective learning strategy. However, VPs can be relatively more effective and efficient than previous KM approaches, in that:

- Depending on the investment in software, design and facilitation, **knowledge-sharing via a virtual platform can be much less costly and have a much lower carbon footprint in comparison to face-to-face exchange and learning when involving a number of participants across large distances.** The KEDLAP online resource mobilisation course, hosted on CEBEM's platform, cost a fraction of a face-to-face learning event and allowed participants to some extent greater time flexibility. VSO International's VolZone, likewise, enables information and knowledge to be shared virtually, reducing the need for face-to-face training and exchange workshops and for time-costly e-mail exchange.
- If well-structured, facilitated and moderated, **using a VP generates an accessible archive of information and knowledge resources over time** in comparison to mechanisms such as meetings, teleconferencing, and in a more usefully structured way than public social networking platforms such as Facebook.

The relative effectiveness and efficiency of a virtual platform are reduced when the costs of design, maintenance and facilitation are high and the number of participants limited, especially if there is no clear application of the information and knowledge shared. Open source software and web 2.0 tools may reduce development costs but still require a level of adaptation, as well as an investment in continued maintenance and facilitation.

I) Future Changes

Cuso International and CEBEM have identified a number of changes that need to be made to the KEDLAP platform to increase its use and usefulness. Beyond structural and aesthetic changes that can be easily accommodated with the current technology, the changes envisaged include:

- expanding participation to other relevant regional programme stakeholders (beyond users in the Model Forests involved during the pilot phase);
- simplifying the overall structure, including a clearer and simpler format for discussion forums;

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- ensuring a prominent and clear role and space for volunteers (cooperants) on the virtual platform, as they are the key knowledge facilitators and brokers in Cuso International;
- exploring possibilities for more multilingual exchange;
- improving links to and integration with other Cuso International and VSO international digital knowledge sharing mechanisms; and
- reviewing responsibilities for technical management and platform knowledge facilitation.

Short-term changes will be resourced from an institutional Knowledge Sharing Fund, financed by CIDA. In the longer-term we hope to develop a new wider organisational knowledge management and sharing strategy, built on learning from KEDLAP and other organisational initiatives. This will imply adopting new and more useful institutional virtual tools that will eventually replace or absorb the KEDLAP virtual platform.

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A compilation of knowledge resources generated and disseminated by the KEDLAP project is available on CD.

Endnotes

ⁱ A content management system is an information platform that manages formats (fonts, font color, size and alignment, column distribution, etc.) and content (texts, images, documents, sound and video files) separately, so that web pages are generated when they are combined.

ⁱⁱ It is distributed under an open code modified BSD license (which permits its redistribution free of cost along with any software product that uses it). It can be downloaded from this address: <http://ezcomponents.org/download>

ⁱⁱⁱ It is interesting to note, however, that by the end of the project, users were subsequently dissatisfied with these other popular media as a means of systematic ongoing knowledge-sharing in comparison to the project platform!

^{iv} Networking and collaboration is a central concern of the Model Forest Network but is put into practice by a handful of the member Model Forests. Currently the IAMFN website, an important complement to the KEDLAP virtual platform, has limited capacity to incorporate and manage interactive tools.

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