I. Introduction

Collaboration among information providers, while being pursued as early as the 1970s, is currently undergoing a renaissance (Helmer, 1998). Many libraries and information centers are finding it necessary to join forces with others to maximize the use of scarce resources. Moreover, collaboration allows librarians to benefit from a wider range of competencies and skills, and reduces the pressure to have and to know it all. Sharing knowledge is also acknowledged as an effective component of knowledge creation (Allard, 2002).

Several catalysts are responsible for the heightened move towards collaborative initiatives. The volume, format, and quality of information sources have undergone many changes as a consequence of recent advances in information and communication technologies (ICTs). Improved information users’ capabilities, coupled with the ability to manipulate sophisticated automation infrastructure, have altered user needs and expectations. Instant delivery of electronic knowledge sources has become the rule of the day. For libraries, membership in a consortium is increasingly seen as an effective vehicle for competitiveness and cost-effective database licensing. The increasing power of library consortia is clearly evident in the extent to which aggregators or publishers are now streamlining their products and business proposals to target the consortial market.

These factors, together with the increasing cost of electronic information sources, brought forward the urgent need to adopt a strategy wherein information can be linked efficiently to potential users. This goal cannot be reached by an institution that is working alone or depending solely on its resources. Successful collaboration through communities of practice (CoPs) is now perceived to be the real vehicle for timely and efficient knowledge management and dissemination.

CoPs refer to a “group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their understanding and knowledge of this area by interacting on an ongoing basis” (Wenger, 2002) CoPs provide a crucial element to address the increasingly difficult knowledge challenges faced by many organizations. The members of a community possess the knowledge, skills, and competencies which enable them to discuss and find solutions to problems, initiate efficient courses of action geared toward the accomplishment of common goals.

Like most information providers of today, the librarians and other information professionals of the 16 Center libraries of the Consultative Group on International Agricultural Research (CGIAR) and that of the CGIAR Secretariat are facing many challenges in filling the changing needs for better knowledge access by parent organizations and stakeholders. There is a growing urgency in restructuring information generation and dissemination along the lines of advances in ICT.

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1 Paper to be presented at the CONSAL XII: Information Resources Empowerment: Enhancing Knowledge Heritage, Brunei Darussalam, 4 to 8 May 2003.
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This paper presents the experiences of the CGIAR Libraries and Information Services Consortium (CGIAR-LISC), its evolution from an informal listserv to a well-established CoP that can address the information needs of the CGIAR staff, stakeholders, and partners, through the strong commitment and unwavering cooperation of its members.

II. The CGIARLISC as an effective CoP

Origins. The CGIAR was established in 1971 to “contribute to food security and poverty eradication in developing countries through research, partnerships, capacity building, and policy support, promoting sustainable agricultural development based on the environmentally sound management of natural resources”. The CGIAR consists of 24 developing and 22 industrialized countries, 4 private foundations, and 12 regional and international organizations that provide financing, technical support, and strategic direction. The co-sponsors are the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Development Programme (UNDP), and the World Bank. The CGIAR supports 16 Future Harvest Centers (Table 1), with more than 8,500 scientists and scientific staff working in more than 100 countries (CGIAR online, 2002). Each center is autonomous, with a charter, board of trustees, budget, and staff of its own. Guided by diverse humanitarian mandates, the 16 CGIAR centers generate knowledge and collect pertinent information for dissemination to respective end-users: the CGIAR staff, scientists in partner organizations and in the national agricultural research systems (NARS) and private organizations around the world.

In recent years, agricultural, as well as aquatic and forestry resources research, has become multidisciplinary. It encompasses the biophysical and social sciences, such that no single information center can supply the needs of all researchers. Advances in ICT have altered the way a library operates and supports the organization. To overcome these challenges, the information management professionals (IMPs) of the CGIAR, strengthened their previous mode of cooperation through the formation of a CoP. As early as the 1980s, meetings among CGIAR IMPs have championed the cause of regional agricultural information networks or inter-center collaboration. The CGIAR center libraries have been collaborating informally through the years (Allmand, 2001). Each center library has been engaged in exchange of publications, interlibrary loans, access to each other’s databases, document delivery, consultations, and most important of all, the Union Catalog of Serials in International Agricultural Centers (SRLS database), which is now available on the Internet.

In the new millennium, recognition of the importance of knowledge management as the key source of competitive advantage in organizations (Wenger, 1998) is the guiding principle. A Knowledge Management Workshop was organized by the CGIAR Organizational Change Program (OCP) in 2000 (Knowledge Management … 2000), which identified the role to be played by IMPs in developing tools to hasten knowledge sharing. A community of practice of IMPs was born soon after, using the CGIARLib listserv as the major avenue for the exchange of ideas.

In 2002, the CGIAR Libraries and Information Services committed themselves formally through a Memorandum of Understanding signed by all center directors and the CGIAR Secretariat to pursue the following objectives (CGIAR, 2002):

- “share resources and knowledge, such as joint journal subscriptions, document delivery services, content, expertise, technologies, and processes;
• facilitate access to information held at all CG Centers by Center staff and partners particularly those located in the poorest countries of the world;
• contribute to the dissemination of CGIAR research output;
• implement the intended collaboration by jointly developing and executing projects within the CGIAR and in collaboration with other institutions and partners (e.g. FAO, USDA-AgNIC, scientific publishers) and through other initiatives;
• exchange best practices in knowledge and information management.”

<table>
<thead>
<tr>
<th>Name of center</th>
<th>Date of joining CGIAR</th>
<th>Location</th>
<th>Areas of Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIAT (Centro Internacional de Agricultura Tropical</td>
<td>1971</td>
<td>Cali, Colombia</td>
<td>Beans, cassava, tropical forages, rice; agroecosystems</td>
</tr>
<tr>
<td>CIFOR (Center for International Forestry Research)</td>
<td>1993</td>
<td>Bogor Barat, Indonesia</td>
<td>Sustainable forestry management</td>
</tr>
<tr>
<td>CIMMYT (International Maize and Wheat Improvement Center)</td>
<td>1971</td>
<td>Mexico City, Mexico</td>
<td>Wheat, maize, triticale</td>
</tr>
<tr>
<td>CIP (International Potato Center)</td>
<td>1973</td>
<td>Lima, Peru</td>
<td>Potato, sweet potato</td>
</tr>
<tr>
<td>ICARDA (International Center for Agricultural Research in the Dry Areas)</td>
<td>1975</td>
<td>Aleppo, Syria</td>
<td>Wheat, barley, chickpea, lentil, pasture and forage Legumes; livestock; small ruminants</td>
</tr>
<tr>
<td>ICRAF (International Center for Research in Agroforestry)</td>
<td>1991</td>
<td>Nairobi, Kenya</td>
<td>Agroforestry, multipurpose trees</td>
</tr>
<tr>
<td>ICRISAT (International Crops Research Institute for the Semi-Arid Tropics)</td>
<td>1972</td>
<td>Patancheru, India</td>
<td>Sorghum, pearl millet, finger millet, chickpea, pigeon pea, and ground nut; Sustainable production systems for the semi-arid tropics</td>
</tr>
<tr>
<td>IFPRI (International Food Policy Research Institute)</td>
<td>1980</td>
<td>Washington, D.C.,</td>
<td>Food policy; socio-economic research related to agricultural development</td>
</tr>
<tr>
<td>ILRI (International Livestock Research Institute)</td>
<td>1973</td>
<td>Addis Ababa, Ethiopia</td>
<td>Livestock diseases, cattle, sheep and goats, feed and production systems</td>
</tr>
<tr>
<td>IITA (International Institute of Tropical Agriculture)</td>
<td>1971</td>
<td>Ibadan, Nigeria</td>
<td>Soybean, maize, cassava, cowpea, banana, plantain, yams; sustainable production systems for the humid lowland tropics</td>
</tr>
<tr>
<td>IPGRI (International Plant Genetic Resources Institute)</td>
<td>1974</td>
<td>Rome, Italy</td>
<td>Plant genetic resources of crops and forages; collection and gene pool conservation</td>
</tr>
<tr>
<td>IRRI (International Rice Research Institute)</td>
<td>1971</td>
<td>Los Baños, Philippines</td>
<td>Rice and rice-based ecosystems</td>
</tr>
<tr>
<td>ISNAR (International Service for National Agricultural Research)</td>
<td>1980</td>
<td>The Hague, Netherlands</td>
<td>Institutional innovation to increase the contribution of research to agricultural development</td>
</tr>
<tr>
<td>IWMI (International Water Management Institute)</td>
<td>1991</td>
<td>Colombo, Sri Lanka</td>
<td>Irrigation and water resources management</td>
</tr>
<tr>
<td>WARDA (West Africa Rice Development Association)</td>
<td>1975</td>
<td>Bouake, Cote d’Ivoire</td>
<td>Rice production in West Africa</td>
</tr>
<tr>
<td>World Fish Center (formerly International Center for Living Aquatic Resources Management)</td>
<td>1992</td>
<td>Penang, Malaysia</td>
<td>Sustainable aquatic resource management</td>
</tr>
</tbody>
</table>

Through the CGIAR LISC, rigid boundaries, which used to isolate each center and block the flow of knowledge, were dissolved. Each member, although representing a different research focus or pursuing a different mandate, succeeded in creating a regular communication space, where everyone feels comfortable to express himself. Paths were opened which enabled constituents to share and exchange valuable information without inhibition. The consortium has the potential of serving their member libraries in many ways. Chief among these are buying power, collective technical expertise, resource sharing (digital and traditional media), staff development, consolidation of services and collections, risk sharing, grant-seeking, lobbying, and other benefits of collaboration.

**Some Major Achievements.** In its more than two years of existence, the CGIAR LISC was able to accomplish the following (Alvare, 2003):

- Financial and organizational support received from OCP and Food and Agriculture Organization (FAO). Two meetings of the community were held in 2001 and 2003 with grants from these agencies.
- Development and maintenance of a common gateway, the CGIAR portal page\(^7\) for access to all CGIAR library resources. Facilitated access to the CGIAR core collection was enabled. (hosted by the CGIAR Secretariat)
- An active union catalogue of serial holdings of the various Center Libraries: the SRLS database (hosted by CIAT & ICRISAT)
- The use of a common web server at CGNET by most centers, in order to provide a common platform to share INMAGIC databases, and the INMAGIC Web Publisher program.
- Joint subscription to Science on Line at discounted costs.
- Agreement on having a common journal aggregator for all centers (Swets), to arrange joint journal subscriptions hence reducing the time and effort required in arranging subscription deals with publishers. This has facilitated the negotiations of more than 1,000 journal subscriptions

  This year, a joint venture for an all-electronic subscription was entered into with 5 publishers: the American Chemical Society, Cambridge University Press, Marcel Dekker, Oxford University Press, and the National Research Council of Canada. All print subscriptions were dropped as purely online subscription proved to be cheaper. Only 39 titles were paid for, but all members now have access to 60 titles. Only one copy of the print edition of every title will be kept in designated centers for archival purposes. Keepers of the print copies are obliged to make the copy available once the need for it arises.
- Reduction in costs through the joint purchase of CAB (Commonwealth Agricultural Bureaux) Agrivista via CGNET.
- Collaboration with the Food and Agriculture Organization (FAO) in promoting and developing the *Info Finder*\(^8\) and with INASP (International Network for the Availability of Scientific Publications), which is providing free access to electronic journals to CG centers and out-posted staff located in targeted countries.

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\(^7\) Available at: [http://www-int.cgiar.org/library/cglib.htm](http://www-int.cgiar.org/library/cglib.htm)

\(^8\) The *InfoFinder* is a free internet resource that provides instant access to full-text digital information available on the web sites of the 16 Future Harvest Centers of the CGIAR and the FAO available at [http://infofinder.cgiar.org/](http://infofinder.cgiar.org/)
• Purchase and upgrade of a document delivery software, Ariel, which hastens electronic document delivery throughout the system and to other organizations, resulting in reduced delivery time and costs
• Stronger representation in the CGIAR ICT-KM Advisory Group Workshop (Rome, May 2003) via 2 representatives from the community.

From 2001 up to early 2003, an estimated total cost savings of **US$1,128,833** (Alvare, 2003) was generated by the consortium for the CGIAR system.

**Strategies.** The achievements mentioned here came through by adopting the following strategies:

• **Clear-cut Rules of membership.** In its early development stage, the community agreed that the CoP would be used as a vehicle for sharing knowledge and achieving results for the CGIAR heads of libraries and information centers. It will act as foci for Schelling Point, that is “an identifiable location where like minded people can congregate and share information and discourse” (Sharp, 2003). The CoP is being used as an effective means to some ends, i.e. to foster and create new learning, to identify and share best practices, and to stimulate interaction among the 17 members spread geographically around the world.

   As a new name is nominated to the listserv, everyone is consulted as to whether said nomination would be accepted or not. The main idea is to limit membership to people directly involved in knowledge management and dissemination. It is important that the members feel free to communicate their ideas without fear of censure from those who may not be speaking in the same wave length, i.e. those whose concerns are different from the common goal that the CoP aims at.

• **Free Communication of Ideas.** Open communication lines are essential in building and nurturing the community. The CGIAR LISC realizes that the real value in community management is the sharing of ideas, experience, and insights which are not documented and difficult to articulate, e.g. members would like to know from each other which system works better in managing images and why, or which agent provides better after sale service. Each member is more interested in knowing the reasons and logic behind decisions. Polanyi(1958), as cited by McDermott(2003), defined this undocumented knowledge as tacit knowledge Consortial gains do not only cover material and electronic resources but tacit knowledge as well. In many cases, the community translates tacit knowledge into explicit knowledge and uses it to handle tasks that would have been difficult for them to undertake alone (Harney, 2002).

• **Continuous Learning for Members.** The levels of competencies among members vary. Through the CGIARLIS listserv, it is very easy to get advice and suggestions from fellow librarians regarding work-related problems. Most important of all is the technical expertise shared in IT-related matters. An example would be those related to the application of InMagic, a library system used by many centers. Community members are aware that they need to grow. They learn from their peers, read relevant literature, try out new digital tools, and undergo training to add to their store of knowledge. It is vital that community members “steward competencies” to keep the organization at a competitive advantage (Wenger, 1998). Current awareness, keeping abreast with new developments all lead to a “forward-looking” and live community. The CGIARLib listserv is a very effective avenue for current awareness.

• **Maximum Utilization of IT-enabled Communication Links and Digital tools.** The community started with commonplace technologies to support the community. To make it easy
for community members to connect, contribute to and access the community, a simple email infrastructure was chosen, the CGLib listserv. The CoP is currently subsisting on a free service provider (Yahoo) to maintain its listserv. For knowledge management, the use of digital tools and software is maximized. Examples are scanning devices, the Ariel software, and the InMagic DBTextworks software. The focus is on the social side of information technology and not on software functionality. The community realizes that though information technology has made global community possible, it requires human intervention to make it real. The CoP enjoys a common, shared IT infrastructure provided by the System with access to common services, platforms, applications for virtual team services, and utilities; which provides a big advantage for the CoP.

- **Face to Face Community Contact.** In addition to remote discussions by e-mail, the community creates opportunities for the community members to have face-to-face contact once a year. Such meetings are the key to building up a sense of commonality, enthusiasm and trust among members (McDermott, 2003). The level of trust increases with each meeting, as members are able to judge for themselves their peer’s competency and professionalism. On account of diverse geographical locations, the community feels that it is necessary to meet at least once a year to discuss and decide on vital issues and to develop joint work plans. In the past 2 years, the consortium met twice in Washington, D.C. with financial support coming from the Organizational Change Program of the CGIAR and FAO.

- **Sharing of Leadership.** There is no formal hierarchy in the CGIAR-LISC nor are there clear-cut rules on leadership. In the course of many discussions, there will emerge a few members who are capable of leading specific initiatives (usually conceived and championed by these leaders themselves). In this CoP, leadership roles are rotated and are assumed based on competencies and by mutual agreement of the members. Leadership is usually at the task level and “leaders” are self-selecting since the CoP functions on a principle of self interest. This leadership pattern gives the community a single focus and a well coordinated plan of action.

- **Sustained linkage with CoPs within and outside centers.** Collaboration should not be limited to community members but to other CoPs within and outside centers as well. Some examples are the community’s close working relationship with the CoP of IT experts within centers and active participation in FAO’s CG Information Finder Project. IT-related problems are solved with the help of experts within the centers, e.g., the web designers have a big role to play in the design and development of web sites. It is also vital to establish links with other suppliers of information and institutions engaged in agricultural research.

- **Encouraging Active Participation by Members.** The CoP is self-governing and voluntary in nature. As such a set-up can be extremely fragile, the community had to ensure that members’ interests are constantly sustained so that no one drops out. The community encourages active participation from all. To achieve this, only issues that will strengthen the relationships within the community are discussed. Only activities and events that provide value to the community are undertaken. The content has to be free flowing. This is easy to achieve, as membership is restricted to CGIAR heads of libraries and information centers only. The community’s focus is on knowledge important to librarians- topics that the librarians feel personally passionate about, e.g. library management, information storage and retrieval, new ideas for services, best practices etc. The approach adopted enables the CoP to be more manageable and the collaboration more direct and intimate, something difficult to achieve using the traditional methods e.g. meetings and formal workgroups (Harney, 2002).

The CoP does not want free riders. There is no problem in this area as the members are experienced and knowledgeable information professionals who are passionate about the topics for discussion and the community. They are not afraid to make mistakes. They might not be
leading experts in the field and for many members, English is their second language, but their positive attitude makes them effective contributors.

- **Focus on Adding to the Core Value of CGIAR.** Realizing that the community will thrive when it provides value to the organization and the community members, it creates activities and relationships that initially will develop the community’s potential value and later will find the best ways to harvest them. To ensure the community obtains management support, activities and events organized are relevant to organizational needs. It focuses on information dissemination activities that contribute to the CGIAR’s mission of contributing to food security and poverty eradication in developing countries through research, partnerships, capacity building, and policy support. The CoP also provides value to the organization through realizing tangible cost savings, for example, through consortium purchases of journals or software.

- **Enhancement of Community Visibility.** It is important that the CoP be made visible to the rest of the organization. The fact that the CGIARLISC has improved organizational value is now increasingly recognized in the CGIAR. Initially started off as a strategy to improve the performance of CGIAR libraries, the strategy has been extended to improve organizational performance. It is now easier to get management support for community activities. Lesser and Storck (2001) suggested thinking of the community as an engine for the development of social capital, “the social capital resident in communities of practice leads to behavioral changes, which in turn positively influence business performance”. This is evident in the success stories of the CoP, e.g. the CGIAR Info Finder, CGIAR consortium of journal subscriptions, and the use of a common web server at CGNET by most centers to provide a common platform to share INMAGIC databases and the INMAGIC Web Publisher program, and many more.

### Constraints Faced By the CGIAR-LISC

Alongside their strengths, there are some negative forces that may hamper the growth of a consortium, namely, bureaucracy, loss of local control, expense (time and money), political intrigue, and increasingly, a need to prioritize participation and choose among multiple consortia (Helmer, 1998). The CGIAR-LISC members are slowly treading along the path of growth and are carefully planning their steps so that these hindrances will not materialize. Presently, except for expense, not one of them is evident. Some constraints faced by the consortium are:

- **Geographical Location.** The centers and their outreach offices are located in various parts of the world. The distance problem is breached by frequent communication via the listserv and by occasional meetings.

- **Diverse mandates of the 16 centers and the CGIAR Secretariat.** This creates a problem of subject priorities. For example, selecting journal titles for joint subscription creates a big problem of prioritizing as one title might be useful for one but not for the others. It is a challenge to find win-win arrangements to meet diverse needs. This is the most difficult issue to resolve.

- **Reduced budget.** Almost all centers are facing a budget decline lately. With so many new titles coming out and the increased costs of electronic resources, providing access would not be possible. Developing project proposals to get financial support from donors in the developing countries is a possible solution.

- **Human Resources and Capacity Building.** The number and capability of staff in the various centers vary. Capacity building must be addressed by the consortium, giving priority to those who need them most.

- **Time.** Coping with job as well as consortial requirements is a dilemma faced by information providers This has always posed a problem as working in a research support unit
such as an information service means carrying a heavy workload due to shortage of staff and the limited budget. Again, prioritizing activities may be a solution.

- **Language Differences.** Some members are not from English speaking countries and to some extent, a problem in communication and in writing comes up.

### III. Plans for the future

In the coming years, the CGIAR-LISC plans to focus its attention on (Alvare, 2003):

- Increased and continuing access to e-journals and further searching for lower costs. More publishers will be approached for possible discounts.
- Involvement in the evaluation of tools and resources for knowledge and information management including common tools and standardization methods to support the new collaborative research programs of the CGIAR.
- Further improvement of the CG library gateway as the central point for CG information access
- Seek funding for the purchase of the “Web of Science” complete package of current contents and citation indexes
- Create wider awareness of the CGIAR Infofinder and continue to add more full text electronic documents to the database. There is a need to stakeholders, especially those coming from the developing countries that CGIAR and FAO publications are available full text and free on the web.
- Coordination of the development of the “subject tree” for the CG Info Finder Project with FAO
- Participation in the CGIAR ICT-KM Advisory Group Meeting in May 2003 by the consortial representatives.
- Secure Funding for a 2003 IM meeting in order to develop action plans for new projects and to evaluate existing ones.

The momentum of collaboration and savings must be sustained. In spite of these constraints, this CoP has been thriving strongly for more than two years, as problems are confronted head-on as a group.

There are some areas for possible improvement of the community, which are:

1. **Redefining the community boundary**
   
   The community is maturing and at some point of this phase, it needs to redefine its focus, role, and boundaries. To maintain the synergy, the community plans to steward knowledge with other related communities in the CGIAR set-up, e.g. the information technology group, the marketing group etc. As many of the information management projects are complex and interdependent, this will require closer integration and exchange of ideas with other related CoPs. In defining the new boundaries, however, the community will be careful that it does not get distracted from its core activities.

2. **Defining the community’s role in the CGIAR**
   
   As the community is now seen as acting collectively rather than acting individually, it is much easier for it to gain more influence in the CGIAR. In the future, the community plans to continue to take on important issues and contribute substantial value to the CGIAR. It should be recognized and respected as a community of information experts whose advice and support is sought by senior management.

3. **Identifying knowledge gaps and developing a learning agenda**
The community will need to be kept on the cutting edge of its practice. It plans to move from basic to more challenging issues requiring new knowledge to meet evolving information management needs and expectations of users. To do this, the community will map their existing knowledge, what they need to know, and the resources and projects needed to fill the gaps.

V. Conclusions : Lessons learned

CoPs are crucial to organizations that recognize the value of knowledge for its survival and success. The CGIAR-LISC, as a group, has developed a virtual team from learning by doing. New, more horizontally connected, participatory ways in achieving higher levels of small-group performance (Lipnack, J and Stamp, F.2000) have been acquired. Members have learned e-mail ethics and self-reliance in leading teams within each center and also in assuming a voluntary role in leading specific information management projects undertaken by the CoP. Other lessons that CoP members have learned are:

• that strong commitment to an agreed activity is important to achieve results;
• that trust creates open communication with due respect to differences, which, in turn gains mutual understanding;
• that the value of sharing resources does not mean equal in terms of monetary value and the amount of time and other resources being shared. In some cases, some centers tend to give more than what is received from others for the benefit of everyone;
• that there is a need to be flexible in many ways as everyone has a full-time job which should be given top priority and that at times, responding to requests or questions immediately is not always possible;
• that certain projects can be accomplished through a virtual team if done seriously;
• that members are still learning and working hard to develop a better team;
• that on account of diversified mandates, there are occasional disagreements, and that patience is a virtue that each consortial member must have plenty of.

For a community to be sustained, there are three critical elements that must be present: commitment, shared enthusiasm, and flexibility (Stackpole, 1998). These must be leveraged by the CGIAR-LISC to sustain its strong existence. The effectiveness of a CoP is not a one-sided affair, though. Management, on the other hand, needs to support CoPs through recognition and by allowing members to spend some time to participate. Moreover, it needs to create an environment favorable for the nurturing of communities. With strong and sustained management support, the CGIAR LISC CoP has flourished and has set a positive model for other CoPs in the organization to follow.

Bibliography


Consultative Group on International Agricultural Research. 2002. Memorandum of understanding for the creation of a consortium of libraries and information services among the CGIAR Secretariat and the centers … Washington, D.C., etc. 3 p.


