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Volunteer Endeavors to Promote ICT in a Developing Country: the case of the Pakistan Library Automation Group

Committed information professionals in developing countries who are willing to make their expertise available on a voluntary basis can play a significant role in promoting ICTs in their countries' libraries.

Khalid Mahmood, Muhammad Ajmal Khan and Nadeem Siddique

BACKGROUND

Modern information technology has changed the shape of librarianship in this era. With the utilization of computer and communication technologies (ICTs), today's libraries are providing services that could not be even be imagined some years before. Computers were first used in information work in Pakistan in the Pakistan Scientific and Technological Information Center (PASTIC) in 1968. PASTIC helped to produce the country's first Union Catalogue of Scientific Periodicals, and created profiles of 100 scientists to start a selective dissemination of information (SDI) service. After a span of 10 years, agricultural universities and research centers started using computers. Sindh Agriculture University installed computers in its library in 1980. The National Agriculture Research Council (NARC) Documentation Center also started using computers in the 1980s, when many university and special libraries also started using ICTs (Haider, 1998).

During the 1990s the Netherlands Library Development Project (NLDP) for Pakistan influenced the library scenario significantly. The project worked very closely with the Pakistan Library Association and contributed to introducing ICTs, the development of human resource, hardware provision, software development, information networking and curriculum development. They helped in accelerating the overall ICT environment, created awareness amongst librarians and overcame their hesitation. In addition, they provided a platform for further activities (Mahmood, 1996).

The last two decades have witnessed many libraries in Pakistan starting to offer automated services to their

clientele. However, due to the lack of institutional support in this regard, libraries were having difficulty in planning successful automation projects. Consequently, the valuable resources of financially poor libraries went to waste. In this situation, it was necessary that an association or group of librarians should take the initiative to provide consultancy to libraries in their automation endeavors. The NLDP also focused on this area in establishing the Library Automation Group (LAG) in Islamabad. This group started publishing a newsletter, *LAG News*. Three issues of this newsletter were published. The group's main activities included a comparative study of Micro CDS/ISIS and INMAGIC software for libraries. The group recommended CDS/ISIS as the best library software in the Pakistani situation. Another achievement of the group was the compilation of a list of existing CD-ROM titles in Pakistani libraries and documentation centers. The group planned to publish a book on the situation of library automation in Pakistan, compile a national union catalog, and provide advisory services to libraries for automation. But with the end of NLDP funding the group could not sustain its activities and left the planned schemes unfinished.

ESTABLISHMENT OF PAKLAG

The NLDP was successful in creating a culture of ICT in Pakistani libraries. But the winding up of this project raised the issue of the sustainability of its activities. The Pakistan Library Association was also inactive and failed to provide a platform for ICT-related activities. To fill the gap and try out a virtually zero budget effort to help each other in introducing new information and communication technologies, some young professionals from the fields of library and information science and computer science met in Lahore. They decided to provide voluntary support to their colleagues in planning and implementing automated library systems. They gathered themselves under an umbrella named 'Pakistan Library Automation Group'. Established in October 2000, the group has now completed six years of activity.

VOLUNTEER ENDEAVORS TO PROMOTE ICT

The objectives of the group were set as:

1. To provide technical/professional advice to libraries in their automation programs.
2. To advise/recommend computer training programs for librarians so as to help them to automate their libraries.
3. To develop library automation projects.
4. To coordinate library automation activities in the country.
5. To coordinate library automation activities with the international organizations.
6. To provide information and conduct research/studies on library automation (Mahmood, 2001).

During six years of successful activities the group has never accepted any donations. There is no membership fee. Minor expenditures are provided by the office bearers. PakLAG has a committed team of volunteers. Started in Lahore, the group was soon successful in forming chapters in other provinces and the federal capital, Islamabad. The group's office bearers offer all services voluntarily, including teaching at workshops

and providing consultancy. They also meet the costs of travelling to other cities out of their own pockets.

A brief review of the achievements of PakLAG is presented below. These achievements include: the PakLAG Website; automation of libraries with the Library Information Management System (LIMS); a multilingual web OPAC; a search interface for the National Digital Library; online directory of LIS professionals; a publications program; *Pak-LIS News*; an e-mail discussion group for the dissemination of information related to the profession; online posting of job advertisements for professional posts; a virtual library; training in state of the art library tools for library professionals; and free consultancy service in library automation (a revised and updated version of Khan, 2004).

PAKLAG WEBSITE

As a hub of the group's services PakLAG maintains a Website (Figure 1). This was new in the LIS field in Pakistan as no other organization offered its services

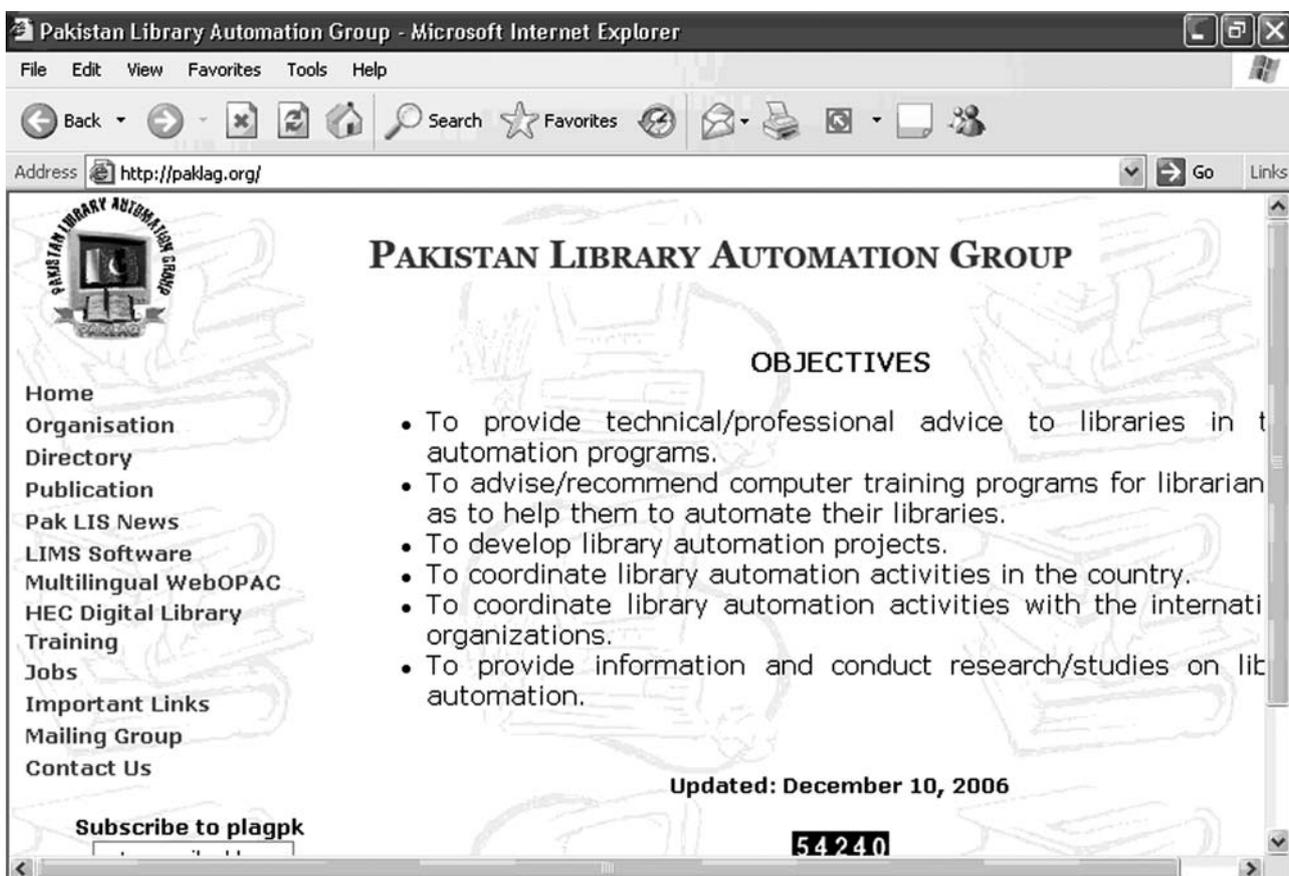


Figure 1. The PakLAG website.

through the Internet. At first the Website was hosted using a free Web hosting service, Yahoo Geocities (www.geocities.com/plagpk). After some time the group was able to have its own domain (www.paklag.org) hosted on a paid server. The group promoted the site well, as it is easily searchable and accessible through most of the search engines, online directories of library associations and library portals.

LIBRARY SOFTWARE

Library Information Management System (LIMS), a unique library system, has been designed, developed, implemented and tested by library professionals. This is the first software in Pakistan which the group is not only distributing free of cost but also providing its training and support through messenger, e-mail, phone and onsite visits. LIMS can be downloaded from the group's Website. Based on Microsoft Access, LIMS provides cataloging, circulation, budgeting, stocktaking modules (Figure 2). LIMS offers many search options, such as Title Search, Author Search, Title and Author Search, Subject, and Keyword Search. Searching is very fast and provides maximum information about the library items, with their status. It also shows the availability status of the items in the library. Search results can be sorted and filtered by different fields. Different Boolean operators can be applied by using the Query windows of MS Access. Similarly, LIMS offers many reports. Data can be transferred to LIMS from different formats like LAMP, FoxPro and Xbase

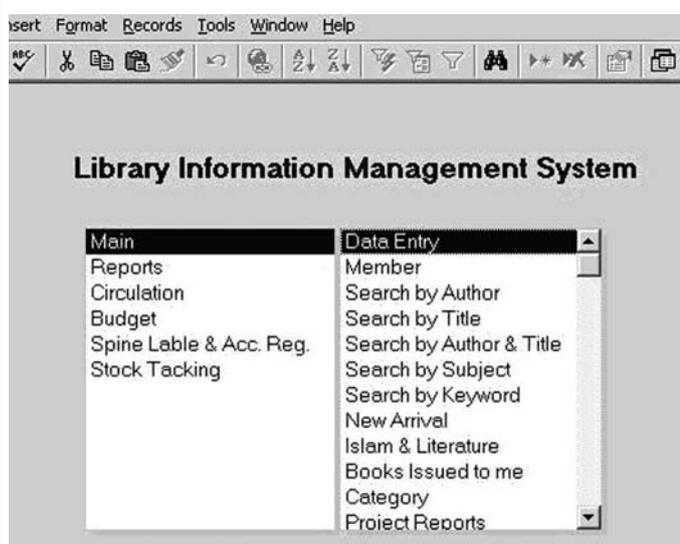


Figure 2. Main menu of LIMS.

databases. Data can also be converted from LIMS into MARC format (Siddique, 2005).

LIMS is being used in more than 60 academic, special, and public libraries, not only in various cities of Pakistan, but also in the Middle East. Some very prestigious Pakistani educational institutions use LIMS and a team of group members provide support and training locally in Islamabad, Lahore, Karachi and Dubai.

MULTILINGUAL WEB OPAC

The ICT experts in the team have introduced the first multilingual Web OPAC in Pakistan. Library materials in English (international language), Urdu (national language), Pushto and Sindhi (local languages) can be searched through simple and advanced searching interfaces based on author, title, subject, classification number, publisher, and year of publication. Other local languages can also be added on demand. Keyboards of local languages have also been provided for users. A demo is available on the group's website with sample data (Figure 3).

NATIONAL DIGITAL LIBRARY

Pakistan's National Digital Library is a project of the Higher Education Commission, through which access to over 20,000 general and subject specific scholarly journals is provided to over 150 participating organizations, including public-sector universities, private-sector universities and other research and development institutions. This library has had a great impact on research and development activities in Pakistan (Said, 2006). The digital library was based on various bibliographic and full text databases. The users were facing



Figure 3. Multilingual OPAC at THE PakLAG website.

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difficulty in finding subject specific resources in different databases. The PakLAG team decided to help librarians and other users to classify full text journals into subjects. A searchable database is available at the group's website. Journal title, subject, database and publisher searching can be done. Full text journals can be accessed after searching direct from the service provider's website using User ID and Password.

ONLINE DIRECTORY OF LIS PROFESSIONALS

The group maintains the first online directory of Pakistani library professionals. It provides necessary information on Pakistani library professionals working not only in Pakistan but also abroad. It provides information about 408 LIS professionals. It is an important source of information for those who want to get guidance from their seniors. Due to the scarcity of resources and static pages, members information could not be updated promptly. The directory is now dynamic and professionals can not only upload their own information online but also edit their profiles. It can be searched using different search criteria. Name, organization and city-wise simple and advanced searching and browsing are available.

PUBLICATION PROGRAM

The group has started publishing material useful for LIS professionals in Pakistan. Its first publication is the doctoral dissertation of the president of the group (Figure 4). Some software user manuals have also been electronically published on CD-ROM and the group's website.

ONLINE NEWSLETTER

Pak-LIS News is the first online newsletter of the library profession published in Pakistan. Almost all prominent library professionals working in Pakistan and abroad, have been contributing as guest editors. The newsletter publishes professional library activities and is managed by editorial board consists of senior library professionals. Twenty-four issues were published up to the end of 2006.

E-MAIL DISCUSSION GROUP

The first widely used mailing group (plagpk@yahoo.com), established in December 2000, has 885

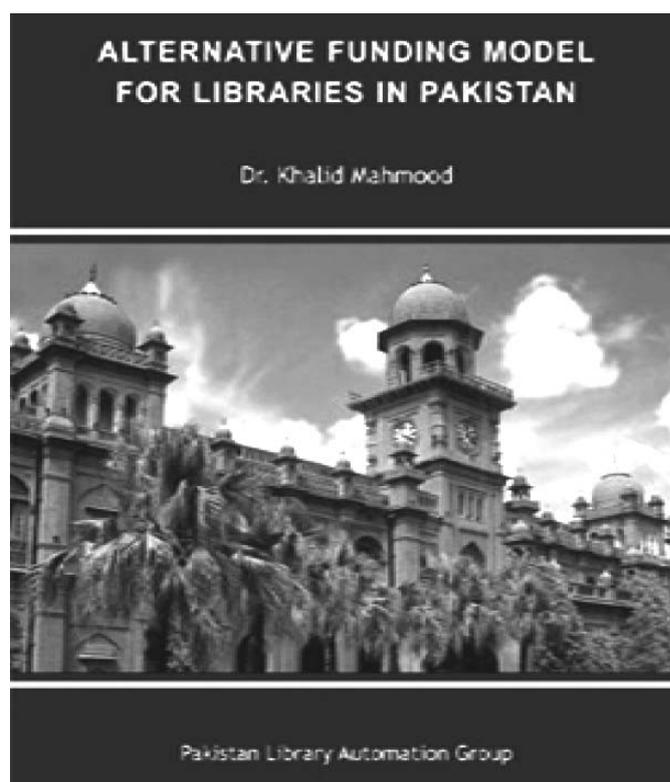


Figure 4. *The first PakLAG publication.*

members. It provides an opportunity to its members for instant dissemination of library-related information and discussion on different issues. The discussion group has been disseminating information about national and international LIS events, announcements and reports of continuing education programs, new publications and online contents, new software, new jobs, social news of LIS professionals, requests for literature, activities of LIS schools and professional organizations, and issues of professional uplift. Full text articles and information about books, mostly available at low prices, related to the profession or on different subjects have also been circulated. Files of common use have also been uploaded for members. Some 2084 messages have been posted up to the end of December 2006 (Figure 5). Retrospective messages can be viewed visiting the website of the mailing group.

This discussion group became a trendsetter in Pakistani librarianship. It encouraged LIS professionals to use mailing groups. E-mail discussion groups established after Plagpk include:

- Pakistan Library Cooperation Group (libcoop@yahoo.com) established August 2004, members 262, messages up to December 2006, 896.

VOLUNTEER ENDEAVORS TO PROMOTE ICT

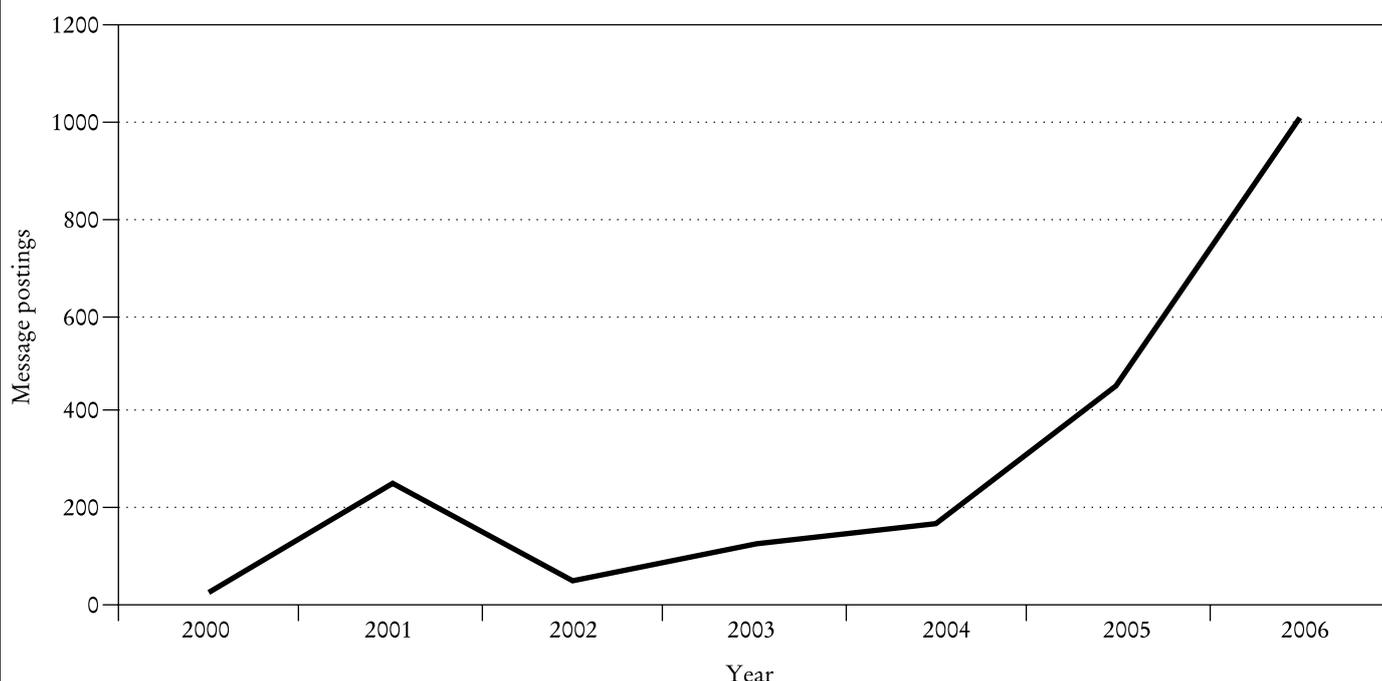


Figure 5. Progress in message postings in the PakLAG e-mail discussion group.

- Librarians Welfare Group (librarianwelfare@yahoo.com) established September 2005, members 467, messages up to December 2006, 1910.
- Department of Library and Information Science, University of the Punjab (dlispu@yahoo.com) established May 2006, members 144, messages up to December 2006, 124.
- Department of Library and Information Science, University of Karachi (dlis-uok@yahoo.com) established July 2006, members 47, messages up to December 2006, 141.
- MPhil. Leading to PhD Program (Session 2005), Department of Library and Information Science, University of the Punjab (mphilis@yahoo.com) established October 2005, members 15, messages up to December 2006, 140.
- MPhil. Leading to PhD Program (Session 2006), Department of Library and Information Science, University of the Punjab, (mphil6@google.com) established September 2006, members 13.

ONLINE POSTING OF JOB ADVERTISEMENTS

The Group has been uploading job advertisements of professional posts. It covers job information appeared in national dailies, sent by employers and LIS professionals in Pakistan and abroad. Table 1 shows

that up to December 2006 some 314 advertisements were posted on the site through which 432 job positions related to LIS were offered.

VIRTUAL LIBRARY

Through its website the group has provided some important web links useful for librarians. National and international links include web OPACs of libraries, online bookstores, online newspapers, online databases and journals, online directories and other reference sources, LIS resources, and computer science resources.

Year	Advertisements	Positions
2001	78	100
2002	34	45
2003	67	100
2004	77	102
2005	31	49
2006	27	36
Total	314	432

Table 1. Number of advertisements and job positions posted on PakLAG website.

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TRAINING PROGRAM

Training in using ICT in libraries is highly demanded in Pakistan. In a study conducted by Mahmood (2002), librarians working in the institutions of higher education perceived that information technology will be the most needed competency for future librarians. Out of a list of 75 competencies validated for academic librarians, seven belonging to the information technology category were in the top ten most essential competencies. In a study of 244 librarians of academic and research institutions conducted by Ramzan (2002), 97 percent recommended that "Attainment of theoretical and practical IT knowledge should be a component of library education in Pakistan." Similarly, in another study conducted by Sharif and Mahmood (2001), two-thirds of the librarians who responded were of the view that their ICT training helped them in finding better jobs. The LIS professionals recommended training programs in advanced concepts of library automation.

The PakLAG's formal training program is carried out in collaboration with different organizations. It includes lectures and workshops. This program has trained more than 150 professionals so far. As a result of this training program a team of about twelve resource persons has been prepared in Lahore and Islamabad to conduct any sort of training workshops anywhere in Pakistan. The PakLAG has offered training facilities for the first time in Pakistan in many new technologies including Greenstone Digital Library Software, barcode technology, MARC Edit, conversion of local format to MARC, Zebra Server and Yaz-Client for LOC z39.5 gateway interface. Training events organized by the group have included:

- First Advanced Library Automation Workshop, Lahore, July 8–9, 2005, in collaboration with University of the Punjab. Contents: Use of scanner for scanning of photographs of library patrons; Installation, cataloguing, circulation, bar-code labeling and printing of reports; Introduction to MARC, Configuration of Tomcat, MySQL, MySQL Control Center, User DSN; Creation of database, data uploading and user administration; Use of MARC Edit Tools, e.g. MARC Editor for conversion of data from LIMS to MARC format and ISO to MARC format; Configuration of Marc Edit, z39.50 client; Installation and configuration of Zebra Server and Yaz-Client for LOC z39.5 gateway interface; Conversion of data from

WINISIS and MARC formats to LIMS compatible format.

- Second Advanced Library Automation Workshop, Lahore, July 15–16, 2005, in collaboration with University of the Punjab.
- Third Advanced Library Automation Workshop, Islamabad, February 2–3, 2006, in collaboration with Bahria University.
- First National Workshop on Greenstone Digital Library Software, Islamabad, June 22–24, 2006, in collaboration with Riphah International University.
- Lecture-cum-Discussion on Writing Research Proposal in Library and Information Science, Lahore, September 1, 2004, in collaboration with Library and Information Management Academy (LIMA) and Quaid-e-Azam Library, Resource person: Prof. Dr. Mumtaz Ali Anwar (University of Kuwait).

In addition to organizing training events, the trained resource persons of PakLAG have also been invited to be trainers in workshops arranged for librarians by other governmental and non-governmental organizations. The group's office bearers gave ICT-focused presentations at many seminars and conferences held in various cities.

FREE CONSULTANCY IN LIBRARY AUTOMATION

The group provides free consultancy to librarians in automating their procedures. This help includes selection and purchase of hardware and software and advice on retrospective conversion. More than 200 libraries have enjoyed the benefits of this service. The informal training, internship and mentoring provided to library professionals has helped some of them to get prestigious positions in Pakistan and abroad. The training included the use of library tools, reference sources, LIMS, barcode generation, etc. More than 100 library professionals have been trained so far. The group successfully experimented in converting local data into MARC format and place on the free z39.5 Gateway Interface (<http://www.loc.gov/z3950>) provided by the Library of Congress. Although PakLAG was not the first in Pakistan to have used this technology, it spread this technology in the country free of cost and encouraged librarians to place their OPACs on the gateway. Eight of the ten Pakistani OPACs on the Librray of Congress gateway were placed with the help of the

PakLAG team. The group also distributes free CDs having sample library software, ICT-related presentations, etc.

FUTURE PLANS

Depending on the availability of human and other resources, the PakLAG team has decided to carry out the following projects in future:

- Develop MARC-based multilingual open source library software.
- Digital library of LIS resources (books, articles, presentations, library rules, library development plans, etc.).
- Online directory of libraries and information centers in Pakistan.
- Online directory of digital libraries in Pakistan.
- Online directory of Pakistani journals and magazines.
- Online national union catalog of Pakistani libraries.
- Online directory and comparative analysis of software packages being used in Pakistani libraries.
- Surveys of ICT use, impacts and future needs.
- Collaborate with other organizations in the government sector (Ministry of Education, Ministry of Science and Technology, Higher Education Commission, LIS schools, Large libraries, etc.) and the private sector (professional associations, local and foreign donor agencies, etc.) to carry out ICT related projects.
- Provide space to ICT vendors, publishers and booksellers to promote their products on the group's website.
- Arrange seminars and conferences on library automation.
- City-based study forums on selected topics in ICT use.
- Offer awards for best practices in ICT use in libraries.
- Promote the group's activities through the distribution of brochures and other promotion material among professionals who are not aware of the efforts of the group. In this way the PakLAG will broaden its team of volunteers.
- Expand the training program to more cities of Pakistan.

CONCLUSION

The contributions of PakLAG in developing and supporting the use of state of the art technologies in libraries, during the last 6 years have been highly appreciated by library professionals and other well-wishers of librarianship in Pakistan and abroad. The success story indicates that if some committed professionals present themselves for voluntary endeavors and plan to develop their nation without any material resources, they can play a significant role in the promotion of ICT in the libraries of a developing country. The group has been successful in building a team of LIS professionals who are devoted to the cause of development. The group introduced many ICTs to librarians for the first time in Pakistan and promoted many others through its formal and informal training, internship and consultancy programs. Through its manifold activities the group has created a culture of low cost library automation in the country.

What is needed now is not only the encouragement but also the participation of more volunteers in the group. How long can a small group of professionals continue such a wide variety of activities? Volunteer activities of this type in Pakistan need, on the one hand, the patronage of the senior professionals and, on the other, young blood with time and energy. The group also needs guidance and patronage from senior colleagues. International and national governmental and non-governmental organizations are invited to join hands with PakLAG to develop Pakistan through the use of ICTs in libraries. The case of PakLAG is also presented before LIS professionals in other developing countries to follow this model for national development.

References

- Haider, S. J. (1998). Library automation in Pakistan. *International Information & Library Review*, 30 (1), 51-69.
- Khan, M. A. (2004). Pakistan Library Automation Group: A review of achievements (Editorial). *Pak-LIS News*, 4 (2). Available at: <http://www.paklag.org/news/News0402.html#ed>
- Mahmood, K. (1996). Promoting information technology in Pakistan: The Netherlands Library Development Project. *Information Development*, 12(2), 96-100.
- Mahmood, K. (2001). Pakistan Library Automation Group (Editorial). *Pak-LIS News*, 1 (2). Available at: <http://www.paklag.org/news/newsarchive/news0102.htm#ed>

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- Mahmood, K. (2002). Competencies needed for future academic librarians in Pakistan. *Education for Information*, 20(1), 27–43.
- Ramzan, M. (2002). *Utilization levels and librarians' attitudes towards information technology (IT) applications in academic and research libraries in Pakistan*. Unpublished doctoral dissertation, St. George University International.
- Said, A. (2006). *Accessing electronic information: A study of Pakistan's digital library*. Oxford: International Network for the Availability of Scientific Publications (INASP).
- Sharif, A., and Mahmood, K. (2001). Impact of computer training on professional library activities in Pakistan. *Information Development*, 17(3), 173–177.
- Siddique, N. (2005). Library Information Management System (LIMS) (Editorial). *Pak-LIS News*, 5 (2). Available at: <http://www.paklag.org/news/newsarchive/News0501.htm#ed>

Abstract

This paper is a case study of the Pakistan Library Automation Group, formed in October 2000 by volunteers in library and information science and computer science in Pakistan. The group's mission was to promote the use of ICT in Pakistani libraries with virtually no financial support. The achievements of the group during 6 years include: PakLAG Website; Automation of libraries with Library Information Management System (LIMS); Multilingual Web OPAC; Searching interface of

National Digital Library; Online directory of LIS professionals; Publications program; Pak-LIS News; E-mail discussion group; Online posting of job advertisements; Virtual library; Training in ICTs for library professionals; and free consultancy service in library automation. The group's future plans are also presented. The study concludes that, if some committed professionals present themselves for voluntary endeavors and plan to develop their nation without any material resources, they can play a significant role in the promotion of ICT in the libraries of a developing country.

Keywords: Library automation; volunteers; Pakistan

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MORE ON VOLUNTEER-RUN IT PROJECTS

Strategies and technologies of sharing in contributor-run archives

Jones, Paul. *Library Trends*; 53 (4) Spring 2005, pp. 651–662.

While we argue about and discuss the plusses and minuses of contributor-run archives, groups formed by people of shared interests and of varied technical competencies have been creating, maintaining, sustaining, and growing their archives for over a decade in several cases. These contributor-run archives make use of powerful open technologies to facilitate their projects. In this article I will focus on three different volunteer-run projects that involve worldwide cooperation using advanced technologies to further their ends. The Linux Documentation Project, the Degree Confluence Project, and Etree.org are all large projects that involve many contributors with technical teams of various sizes using a variety of technologies. Each project will be described in terms of its aims; its history; its rules, or lack thereof, for contribution; its technologies; and its current state of practice. From these examples we can draw some lessons as well as some enhanced awareness of technologies of cooperation. Among the technologies used by the projects are wiki, mailman, Shorten (SHN), FLAC, PHP, MySQL, PHPbb, Postnuke, BitTorrent, rsync, XML, and CVS. All of these technologies are "open" and available for installation, customization, and further sharing of their code. (Original abstract)

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