

LiveWire, the online newsletter on developments at ACS Publications.

March 2005

**First ACS Third World-
Developing Country
agreement reached with the
Pakistan Higher Education
Commission**

Under an initiative funded by the National Academies of Sciences, ACS Publications now provides 24 institutions in Pakistan with access to

and the —
over a century of essential chemistry.

[ACS Web](#)

[Editions ACS Journal Archives](#)

We are pleased to include in this LiveWire an interview with Kamran Naim, Project Coordinator-Digital Library, Pakistan Higher Education Commission (HEC) to provide details about the Pakistan Digital Project, its partnerships, challenges, technology issues, and how ACS Publications became involved.

LW: Please tell us about the Pakistan Digital Project, and the goals the HEC has for introducing electronic journals to the academic community in Pakistan

"The Digital Library Program of the Higher Education Commission, launched in January 2004, is the cornerstone of the strategy of our organization to capitalize on the potential of Information and Communication Technologies (ICTs) to impact the development of the universities of Pakistan into world-class seats of learning, and ultimately increase the participation of Pakistan in the global knowledge-based economy. Following a greater cognizance amongst policy makers of the critical importance of the availability of affordable and sustainable access



to scientific and technological content to support the needs of the indigenous education and research sector, the program aims to use the revitalized telecommunications infrastructure to provide researchers in institutions across the country with high-quality international academic databases via electronic delivery.

The content acquisition strategy of the Digital Library Program has focused on meeting the specific information requirements of higher education institutions in Pakistan. In late 2003, the HEC conducted an extensive review exercise to review the situation in institutions across Pakistan with respect to the supply and availability of scholarly literature, and collected information on the resource requirements of the sector. The expansion strategy of the Digital Library has focused on meeting these specific requirements, with national development objectives driving the acquisition of content for the library.

The results of the review exercise demonstrated the decades of neglect suffered by the higher education sector and highlighted the stagnation of libraries and research culture. In a survey of 48 public-sector universities in the country, only 15 had obtained subscriptions to CD-ROM databases and only 4 had access to online journal databases. With only a handful of exceptions, most university libraries in Pakistan were only able to afford fewer than 20 paper subscriptions to journals. Factors that could be attributed to this deplorable situation include the lack of IT facilities, insufficient funding, the lack of trained manpower and institutional complacency. Most importantly, the absence of a research culture in the universities of Pakistan and lack of vision of previous education policies, contributed to the dismal state of university libraries.”

LW: What are some of the main hurdles you've faced, and how have they been resolved?

KN: “The primary hurdle to the development of a Digital Library was addressed soon after the establishment of the Higher Education Commission in 2002. The first development programs implemented in all of the 56 public sector universities involved the deployment of IT infrastructure. Under the ‘University Computerization and Networking Program’, the HEC provided funds to all public-sector universities to establish a computerized infrastructure, installing Local and Wide Area Networking systems (LAN/WAN), supporting local intranet and internet accessibility, as well as establishing computer laboratories and information centers across universities. A collaborative project between the Ministry of IT and Telecommunications and the HEC, the Pakistan Education and Research Network has also been introduced. A fiber-based network, currently connecting 54 universities, when fully deployed will connect all public and private sector universities of Pakistan to each other. This network provides a perfect platform to build an “internet compatible” truly high-speed network for the delivery of information and many other allied applications.

“The initial review of the resource requirements of universities in Pakistan identified the American Chemical Society as a primary resource to be acquired...we have produced more PhDs in Chemistry than in any other subject!”

The most significant hindrance to the success of the Digital Library program has remained a cultural one, and an issue with no short term solution. Due to the lack of facilities in the past, faculty members and librarians within institutions have generally remained unfamiliar with the use of computers, let alone electronic databases. Students in Pakistan are relatively computer-savvy, and have been quicker to absorb the vast quantity of content now available to them. The large number of resources available, with varying searching techniques and individual idiosyncrasies, has created a further barrier to usage of resources—leading to lower usage statistics for smaller specialist databases, and more impressive statistics for larger multidisciplinary databases and aggregated services.”

LW: How far along are you towards achieving your immediate goals and what are your longer-term plans?

KN: “The resources available through the Digital Library now provide full-text access to over 17,000 scholarly publications, representing a dramatic

renaissance for universities and libraries across Pakistan. With the exception of the lack of content in a few specialist areas (soon to be addressed), the program now provides a significant collection of high quality publications. The long-term strategy of the HEC will now focus on promoting usage within institutions, through intensive training on resources for students, researchers and faculty members. A current priority initiative of the HEC has been to introduce a one-window search interface (the ELIN system developed by Lund University) to allow users in institutions in Pakistan to search through a vast range of resources simultaneously- which we anticipate will have a significant impact on usage statistics. We are currently working on the development of 'Information Literacy' courses to be incorporated into the curricula of masters-level courses, which would involve training of students on all resources available which are relevant to their course of study, and setting compulsory assignments on the content available."

LW: Who are your partners in developing this program (locally and abroad), and how do you see these partnerships growing over time? What advantages/disadvantages do you see in these partnerships -- what would you most like to build upon going forward?

KN: "The primary partner of the HEC in the program since the launch of the project has remained the International Network for the Availability of Scientific Publications (INASP) (www.inasp.info), with a significant part of the Digital Library Program being the implementation of the INASP Program for the Enhancement of Research Information (PERI).

Implementation of the PERI Program in Pakistan allowed for the HEC to provide a vast quantity of scholarly publications to the broadest demographic, as INASP negotiate country-wide licenses with eligibility extending to universities in both the public and private sector, but also indigenous institutions with a non-profit-remit engaged primarily in education and research.

INASP has been instrumental in the development expansion of the program- of particular importance to the HEC is their contribution in the training aspect of the project. The INASP training team has provided extensive training to the recently appointed training staff, as well as to institutional librarians, to allow the cascading of training to end users, as well as the development of training materials. As well as package specific training, the training component covers broader issues relating to research ethics, intellectual property and supporting indigenous publishing."

LW: Are these partnerships open-ended, or do you expect at some point in the future to work independently?

KN: "Whilst our agreement with INASP has initially been for a 5 year period, we are certain that the collaboration will last further into the future. The ultimate objective of the partnership is however to develop a sustainable local approach, with the HEC managing the training and consortia negotiations independently—an area where we have already made significant progress.

Another partnership which has significantly enhanced the program, and led to our current partnership with the ACS, has been the collaboration with the American National Academy of Sciences. Funded under the auspices of the joint Ministry of Science and Technology (Pakistan) and State Department (USA) "Pak-US Cooperation in Science and Technology", the collaborative arrangement provided an excellent opportunity to meet the identified needs of the S&T research community in Pakistani institutions with the delivery of content from selected American Scientific Societies. With the assistance of representatives from the NAS and INASP, the HEC conducted negotiations with society publishers in the U.S. for access to journal content for public-sector higher education institutions.

The funding for the collaborative project under the S&T agreement was initially for one year, and although funding under this fund is uncertain, the project allowed us to establish agreements with publishers that would be financially sustainable for the HEC for future years of subscriptions. We are optimistic, however, that the S&T fund and NAS collaboration will allow us to further fill the gaps in specialist content in the Digital Library collection."

LW: As Project Coordinator for the HEC, what is your role in the mission of the Pakistan Digital Library Project?

KN: "My fundamental role at the HEC is to manage the strategic direction and ensure the successful implementation of the program in the eligible institutions in Pakistan. Until January 2005, I had been running the program independently, which involved a great deal of coordination between universities, publishers, librarians and international organizations. Fortunately I have now been able to build up a team of people who now coordinate day-to-day technical matters, and will lead the training at institutions across the country, which should allow me to focus on matters relating to enhancing the content, training and services available through the program."

LW: How did you end up undertaking this task?

KN: "In my first week of working at the Higher Education Commission as a consultant in late 2003, I received a request from the Chairman of our organization (Prof Dr Atta-ur-Rahman, a renowned natural-product chemist!) to create a proposal on the development of a Digital Library for universities in Pakistan. With background as an economist working in the corporate finance sector in London, the task represented a significant departure and challenge, but through an extensive amount of research, I developed the initial working paper, helped guide the program through its initial approval stages and have been responsible for its implementation and continuity since the launch."

LW: What are the challenges, and greatest rewards, in your day to day work?

KN: "The primary challenges involved in running a project of this nature are essentially related to the scope of the program. Although the initial funding responsibility of the HEC is to the public-sector universities only, the resources available through the PERI program are available to all non-profit research and educational institutions- an eligibility list that runs into the thousands! There are currently over two hundred institutions accessing the PERI resources, for which we have had to arrange resource registrations, technical support, site visits and user training.

The most significant challenges however, have been to generate awareness of the resources amongst appropriate parties within the eligible institutions and to ensure that the funds available through the project are directed towards the acquisition of resources aligned with subject areas related to the short, medium and long-term development objectives of the government.

Having worked with colleagues running similar programs in developing countries, I consider myself as being fortunate for working in an organization where there is an awareness of the importance of the value of access to scientific information at the highest level. Coupled with this awareness, I have been guaranteed sufficient funds to secure the continuity and expansion of the project.

The Digital Library program has generated a significant amount of interest within Pakistan and in scientific agencies across the world, as the project represents a service unparalleled in the developing world. The most rewarding aspect of running the project however, has been the warm response from researchers, grateful for the range and quality of content now available to them."

LW: What are some of the key technological issues that help make the content you've licensed most useful and accessible?

KN: "As I briefly touched upon earlier, the HEC, through our partnership with the International Network for the Availability of Scientific Publications (INASP), are working on the implementation of ELIN@ (Electronic Library Information Navigator) technology, developed and maintained by Lund University Libraries in Sweden, as a means of enhancing the visibility and retrieval of published research made accessible through the program, which is the key technological issue we are exploring at present.

This revolutionary service, ELIN@ integrates data from many publishers,

databases and e-print open archives, allowing users to search documents from multiple sources using one single user-friendly interface. The service facilitates end-user access to electronic information resources whilst offering library staff easy administration tools for managing electronic content.”

LW: What more would you like to see publishers offer in the way of new features?

KN: “Participation in ELIN@ requires agreement with publishers to provide access metadata, preferably Open Access Initiative (OAI) compliant to allow for ease of addition to the service. We are presently developing a version of ELIN@ for use by a carefully selected number of institutions in Pakistan. The existing ELIN@ system is being modified to become a remotely (i.e. Lund) hosted application, which would be made accessible to the participating universities in Pakistan via IP verification.

The ELIN@ system will use licensed resources plus any stored and held information resources (e.g. open access resources, e-print archives, etc.) as the basis of the metadata database and will be provided to selected institutions as a pilot service. Through initial meetings with publishers, the majority (with a few exceptions!) have been very positive on the potential of ELIN@ to increase the visibility of their content. We are hoping that publishers adopt more liberal policies regarding the use of their metadata for federated searching- indeed we are setting ELIN@ participation as a requirement for all future contracts between publishers.”

LW: What drew the HEC to the American Chemical Society? Has the implementation process gone smoothly?

KN: “The initial review exercise of the resource requirements of universities in Pakistan identified the American Chemical Society as a priority resource to be acquired. Furthermore, Chemistry has been the most active research area in Pakistan- we have produced more PhDs in Chemistry than in any other subject! Of course having a chemist as a boss was also a major contributing factor!”

LW: What has the initial response been within the academic community to the content now that it's available in online form to such a diverse group of institutions?

KN: “Access to ACS resources has been very warmly received at public-sector institutions across the country. After only six weeks from setting up access, it is of course very early to give a definitive answer- we will of course have to look at the usage statistics, but early indications are very positive.

The range of content available to universities in Pakistan through the PERI program of INASP includes access to resources from journal providers such as Springer-Verlag (and now all former Kluwer journals), Blackwell Publishing, Mary Ann Liebert, Bentham Science, The Royal Society of Chemistry, Oxford University Press, Palgrave Macmillan and the vast resources of EBSCOHOST. Access has predominantly been set up through IP verification, which has meant that the process has gone fairly smoothly, as we have the static IP data for every participating institution (a significant benefit of running a centralized service). For content that is not available through these resources the HEC has established a document-delivery agreement with the British Library through INASP. “

LW: With what other publishers has the HEC arranged for electronic access?

KN: “Through the collaborative program with the NAS, end users in the selected public-sector beneficiary institutions have been provided with access to the journals of the American Chemical Society, the American Physical Society, the American Institute for Physics, the American Association of Physics Teachers, the American Society for Microbiology, the American Society for Civil Engineering, the American Society for Mechanical Engineering, the American Society for Agricultural Engineers, the Association for Computing Machinery, the Institute of Electrical and Electronic Engineers and the American Mathematical Society.

The HEC has recently entered into an agreement with Elsevier Publishing for access to Science Direct subject collections for a consortium of 30

public-sector universities, and is soon to provide the full collection of journals within the JSTOR archive to all of the public-sector universities in Pakistan. Access to the ISI Web of Knowledge was recently launched in institutions across Pakistan, providing participating institutions with the Web of Science, Journal Citation Reports and Essential Science Indicators.”

LW: Will you be moving beyond journals to reference works, e-books, or databases?

KN: “Our primary focus has been to acquire academic journals to support the information requirements of the research sector, and various initiatives of the HEC to promote a research culture in universities in Pakistan. Depending on the identified needs of indigenous institutions, we may extend the range of content to e-books and other academic databases.”

For questions on the Pakistan Digital Library, you can reach Kamran Naim at the following contact information knaim@hec.gov.pk, Tel +92 (0) 51 925 8745 FAX: + 92 (0) 51 925 7505

ACS Publications, Member and Subscriber Services, 1-888-338-0012 (U.S. and Canada) , 614-447-3674 (outside U.S.)

[▲ Page Top](#)

[Pubs Page](#) / [chemistry.org](#) / [ChemPort](#) / [CAS](#)

Copyright © 2005 American Chemical Society