



INTERNATIONAL PERSPECTIVES...

• Strategies for addressing the university library users' changing needs and practices in Sub-Saharan Africa

by Maria G.N. Musoke

The paper presents a Sub-Saharan African academic Librarian's experience in trying to address the changing needs and practices of university library users. Special reference is made to Makerere University Library. Most of the changes have been brought about by the various paradigm shifts in teaching, learning and research, as well as advances in information systems and services resulting from developments in Information and Communication Technologies (ICTs). Achievements and challenges are highlighted.

INTRODUCTION

Africa, as a region, is experiencing a rapid expansion in higher education. Most universities are repositioning quickly to address the demands created by that rapid expansion. These universities need a vibrant library and information service at the centre of all their activities to be able to meet the changing information needs of the University community. This paper presents some of the issues confronting university libraries in the region, giving Makerere University Library as an example. Makerere University, as one of the first universities in the Sub-Saharan African region, has responded to the continued demand for its education from students of Uganda, Kenya, Tanzania, Rwanda, Burundi, Botswana, Cameroon, Congo, Ethiopia, Eritrea, Liberia, Sudan, Somalia, South Africa, Zimbabwe, Australia, Canada, Germany, Japan, Norway, Sweden, USA, India, Pakistan, etc as the University's current (2006/7) admission list shows. That demand raised Makerere's admission to 34,515 students in the 2006/7 academic year. For Makerere to continue excelling in its provision of quality higher education, it has had to maintain its library and information services as one of the key priorities in its Strategic Plans.

University library users include students, staff (academic and non academic) and researchers. Most university libraries in Africa also extend their services to users from outside the university community as some of these libraries also serve as national reference and/or legal deposit libraries. This paper, however, focuses on the first category, which comprises the primary users of a university library.

The growing number of university students, the increase in study programs coupled with paradigm shifts in for example curriculum and research, the increase in research and the rapid information and communication technology (ICT) developments have all changed the routines of traditional academic librarianship. The changes are very demanding in a Sub-Saharan African university environment where shortages of infrastructure and facilities are very common. These changes and demands, therefore, need an innovative library service focused on new initiatives, networks and collaborations, try to meet the never-ending needs of university library users.

THE CHANGING NEEDS OF UNIVERSITY LIBRARY USERS: ARE LIBRARIANS PREPARED?

While the majority of the developments are standard practice in academic libraries in the developed world, many of these issues

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are relatively new to us, and we have had to contextualize them by finding practical but local ways of addressing some of them. This paper, initially, summarizes the changing needs of university library users and how they have been addressed and then outlines Makerere University Library's response to the challenges. It also outlines the knowledge and practical skills librarians need to meet the changing needs. To our librarians, user satisfaction is a key to information provision. Makerere University Library's plans and activities, therefore, emphasise a user-centered approach in all its operations. Most librarians are prepared to change, undergo training and go an extra mile to meet the needs of users. Those who are not prepared to change are likely to find themselves irrelevant in the current university library environment.

The Changing Needs of Library Users

The needs revolve around the changing methods of teaching, learning and research as well as the growing information technologies and the library users' active engagement and participation in the information chain. The Internet, for example, has expanded the sources of information and created a new environment which has increased the expectations of university library users. The role of the traditional library and information services, therefore, has had to change accordingly. The drivers of change include:

Research methods and paradigms

Generally, research activities and outputs have recently increased in most Sub-Saharan African universities mainly through donor funding, which has led to increased demands for library and information resources. Internationally, both the methods of conducting research and research paradigms have kept changing and new ones emerging. For example, the demand for multidisciplinary approach to research have meant that a research project in the Medical School, which would ordinarily require medical literature now also requires some social science and ICT components. Such approaches put further demands on the already meager information resources in our libraries. The diversity of research methods is an indicator of the complexity of research and the challenges of meeting the information needs of human beings conducting research.

Increasing ICT literacy and demand for quality online sources

In Uganda, the "Technology, People and Process" (TPP) project of the Ministry of ICT has raised the IT literacy of Ugandans such that most of the students joining Makerere University and other tertiary institutions are now computer literate. This has increased the demand for ICT services compared with the past when students admitted to universities were unlikely to be computer literate. However, many students and staff still have what the author refers to as the 'Google magic' problem. To them, Google is 'the source' of information on the Internet; and yet many times Google users complain that the searches waste their time as hundreds or thousands of records are retrieved and many are not authoritative. As reported below, librarians have had to conduct information searching and retrieval sessions to guide library users on how to identify reliable and authoritative sources of information on the Internet. Periodic sessions to update users are also conducted. In addition, customized information sources, in-house/local databases, institutional repositories as well as well

developed library websites linked to other resources have been developed by librarians to meet the needs of users and save their time. Similar trends in the region, for example the University of Dar es Salaam in Tanzania, have been reported by Kiondo.¹

Changes in study programs

New and/or revised study programs and new paradigms get introduced and new staff recruited at the Universities. There is demand for development and use of digital and multimedia materials and applications by students, academic staff and other members of the University to boost information provision to support study, teaching and research.

Changes in curriculum

Makerere University Medical School, for example, changed from the traditional delivery of lectures to Problem-Based Learning (PBL) in 2003. The PBL timetable has specific times for library work, which was not the case in the traditional medical school timetable. The change to PBL has placed a lot of demand on the library both in the provision of information resources and space for library users. Consequently, the medical library started conducting periodic lunch-time information literacy sessions to be able to cope with the demand. It also had to provide some area for group study/discussion which students need in PBL. In Kenya, one medical school has also changed to PBL.

Group versus individual study

In the past, libraries provided space for individual study. Talking or discussion in the library was prohibited as it disrupts the quiet reading environment needed by most library users. Although a quiet reading environment is still needed, the demand for space where library users can meet and hold discussions is one of the recent changes that University libraries have to address. At Makerere University, the demand for group study has been addressed by providing group study rooms (with a capacity of ten to fifteen people) on the whole of the ground floor of the new extension to the main library building.

Are Librarians Prepared to Meet the Needs?

The role of a librarian in the current academic environment and information age is very diverse as she/he displays skills and knowledge in providing library programs, services and materials that enable her/him to meet the changing information needs of students, as well as supporting academic staff who are engaged in lecture-room instructions, research and knowledge creation. Librarians, therefore, need both the intellectual ability and skills to enable them to accomplish key objectives that are aimed at contributing to the University's mission and vision. The skills and attributes needed include communication, training, technology, planning, organising, innovativeness, enterprise, team work, and self management as outlined below:

- a. Communication skills, both written and verbal (plus negotiation or bargaining skills) to support library to library user relations and training.
- b. Training skills are closely related to communication skills. A librarian needs training skills to be able to train users in various ways e.g. information literacy/bibliographic instruction/user education, and use of new technologies.

- c. Technology skills to contribute to the effective execution of library work in the ICT age. In all Makerere University Library recent job advertisements, ICT skills are listed as essential. The new policy on recruitment of librarians at Makerere requires a practical/hands on test since some graduate librarians have failed this part of the interview. This highlights the need for Library schools to revisit their curriculum to be able to meet the changing needs of the employers.
- d. Planning and organising skills which contribute to the library long-term and short-term strategic planning; and the ability to plan one's work and to prioritise as there are so many demands.
- e. Initiative and enterprise skills that contribute to innovative outcomes and outputs as well as project management skills. Most libraries have to initiate and implement projects with time lines which have to be strictly adhered to.
- f. Team work/interpersonal skills that contribute to productive working relationships and outcomes.
- g. Learning and self management skills including the desire for the librarians' professional/career improvement. These skills contribute to the ongoing improvement and expansion in the librarian's knowledge and skills, which enhance the library/university's operations, outputs and outcomes.

In addition, there are various other skills and personal attributes, which are greatly needed in the librarian of today. For example, commitment to meeting the needs of library users, ability to balance work and home demands, adaptability and willingness to work under pressure, respect for ethics, integrity and quality assurance. Some of Makerere University library staff have these skills and attributes, which have enabled the Library to implement most of its plans and activities.

MEETING THE CHALLENGES

The UK Grants Committee in 1921 stated that: "The character and efficiency of a university may be gauged by the treatment of its Central Organ — The Library... An adequate library is not only the basis of all teaching and study, it is the essential condition of research without which additions cannot be made to the human knowledge."² Although this statement was made decades ago, it remains relevant up to this date. The statement expressed a principle that has enabled Sub-Saharan African Universities and their central organ, the Library, to attain a number of goals. At Makerere University, for example, a rigorous strategic planning process was carried out in 1999/2000 to produce a five-year Strategic Plan for 2000/01 to 2005/06. A similar process has been undertaken to prepare a ten-year Strategic Plan for 2006/07 to 2016/17. In both the previous and current Strategic Plans, the Library has remained as one of the top priorities of Makerere University. This is important because of:

- a. The fundamental transformation resulting from the Information Age with its corresponding opportunities and challenges;
- b. The need to develop a compelling vision for learning in the 21st century, a vision that would transform Makerere University by re-aligning it with current developments in higher education.

The importance of placing the Library at the center of University plans has been highlighted by policy-makers such as the Inter-University Council for East Africa and by several African University Librarians.^{3,4} The achievements resulting from good planning are listed below.

Availability of Trained and Skilled Librarians to Meet the Needs of Library Users

Professional librarians are the engine of the vehicle that has driven university libraries to the achievements so far registered. Indeed, as Gilman pointed out 'the notion that we need professional librarians to run a modern University library is even more valid today than it was in Melville Dewey's age'.⁵ As already indicated, the historical role of librarians is changing as librarians are now proactive, multi-tasked and multi-skilled to be able to deliver high quality information services to meet the needs of users.

Traditional manual services such as current awareness and selective dissemination of information are now provided electronically. Library users are guided by the librarians, for example, on how to register with publishers to get Tables of Contents sent to their e-mail whenever a new journal issue is out.

As reported by Rosenberg lack of trained librarians, which used to be a major problem before the 1990s, is generally no longer a problem.⁶ Librarians have embraced the new developments/advances in ICTs and many have been trained and re-trained to be able to update their knowledge and skills. This enables librarians to competently implement the ICT projects and to instruct and guide users. Some university libraries in Sub-Saharan Africa have the training of staff as one of the major components of their library plans and budgets.

Initially, graduate training of librarians was not available locally, and librarian trainees had to go to Europe or North America until regional or national Schools/programs within the Universities were established. At undergraduate level, most schools started with Certificates and Diplomas, but later moved to degree programs. For example, a Library and Information Science (LIS) training program was established at Makerere University in 1963 to cater for the East African region (Kenya, Uganda, Tanzania and Zambia); hence its name "East African School of Library and Information Science - EASLIS". By the late 1980s, a few LIS Schools (e.g. Makerere University in Uganda, Ibadan in Nigeria and Addis Ababa in Ethiopia) introduced Masters degree programs. EASLIS introduced a PhD program in 2004/5 academic year. With the introduction of Computer Science programs, Makerere University started its graduate Computer Science program in the late 1980s. Librarians have been able to benefit from these formal programs, as well as short courses, workshops, and seminars.

Training of Users/Information Literacy

As already indicated, African university libraries have designed user education and information literacy sessions and positions have been created in some libraries to look after this important function of the Library today. The importance of training/information literacy to African university libraries has been demonstrated at the various conferences held on this theme. These include: 'Training and management of information services in the new millennium'⁷ and the 6th Standing Conference of African National and University Librarians in East, Central and Southern Librarians (SCANUL-ECS) held in 2004, which focused on information literacy. One of the pre-

IFLA 2007 satellite meetings also focused on information literacy. These programs, activities and conferences have an emphasis on the African situation, realities, challenges and how they can be addressed.

In addition, Makerere University Library, realized that information handling is at the heart of the research process across all disciplines. In 2005, the author introduced a course for graduate students and researchers entitled 'Information competence and management'. The course focuses on the identification and use of reliable information sources and the management and presentation of the research results. Students/participants are introduced to a range of facilities available within Makerere University and beyond, that can support their research. The topics include: Introduction to the research process; Qualities of a good research article; Introduction to bibliographic searches for literature review; Sources of information and document delivery; Searching the Internet and specific databases; Management of multiple electronic files and word processing; Professional citing and quotation; Reference management using Endnote; and Presentation of research work. Among other things, at the end of the course, students/participants are able to import references specific to their research topics, organize and update records in their personal databases. The course has been conducted once a year since 2005. At the end of each session, participants evaluate the course. The evaluation comments have been used to enrich the course. Among other things, it has been recommended that the course be run twice a year.

Enhancing Local Content Creation and Accessibility

Some university libraries have started projects to digitize their institutional repositories. As noted in the introduction, most university libraries in Sub-Saharan Africa also act as legal deposit and/or national reference libraries. Given the fact that these libraries are usually the oldest and most organized in their countries, they have a rich collection of local materials and research works (gray literature or unpublished work available in different forms: theses and dissertations, research articles, research reports, conference and workshop reports) relevant as reference sources of information for further research and teaching. However, these works have not been widely known and their accessibility has been limited due to a number of factors, i.e. being available in unpublished singular paper copies, located in only one physical place, and these are compounded by the climatic conditions, quality of paper and/or age, which limit their usage.

With the current demand-driven need for online information at Makerere University, and the strong emphasis on access to local knowledge and information in the Ugandan education system, the Library is prepared to play a pivotal role in delivering content in digital form for easy access and use by the whole University community, and the world at large. In June 2006, the Library launched Makerere University's institutional repository, under the Uganda Scholarly Digital Library (USDL) project. USDL is operated on internationally recognized standards and uses open source software (DSpace). The DSpace software is a popular Open Source Software (OSS) being used by many institutions in the developing and developed world. Before selection, many OSS were evaluated to establish whether DSpace would meet the needs of Makerere. It was found sound and highly supported by the user community.

The DSpace system provides for indexing of information by text, author, title, subject, keyword, abstract and full-text (when customized). Full-text information on local servers, accessed on the intranet at Makerere, is one of the strategies for addressing local bandwidth and connectivity issues. Currently, there are over 80 titles already digitized in the DSpace system, and more inputs are underway. As its name shows, the content in the system is all Ugandan, and other Ugandan universities will input records at a later stage. The current digitization activities at Makerere University have been supported through partnership with the University of Bergen, Norway and the University of Tennessee in the US.

Furthermore, with the introduction of ICTs, some African university libraries started digitizing their theses collections. For example, abstracts of dissertations and theses of ten university libraries in Sub-Saharan Africa have since 2001 been entered in an international Database of African Theses and Dissertations (DATAD) available at <http://www.aau.org/datad>. Although the DATAD coordinating office at the Association of African Universities has been closed for about two years, data entry into DATAD has continued as new materials are acquired within the University libraries.

Electronic Resources

Although libraries in the developed world have had electronic journals and books for some time, in Sub-Saharan Africa this is a recent development. The delay in embracing electronic resources was largely due to budget constraints. University libraries have recently started subscribing to electronic journals and purchased electronic books. Considering the large number of students and programs at African Universities, acquiring print books would require a lot of funds to satisfy the demand. The e-books option, which provides for multiple access to the same book title at the same time, has been an essential complement to the existing print textbooks. The challenge remains to convince publishers to allow low-income educational institutions to archive e-books on a local server to be able to optimize bandwidth usage. At Makerere University, for example, the e-books metadata would be loaded on the Electronic Library Information Navigator system to further promote usage and fast access. A number of Sub-Saharan University libraries have converted their manual catalogs to electronic ones as reported in the next section, institutional repositories are being digitized (as reported in the previous section) to increase access, and online books and journals have been introduced. All these electronic resources allow multiple access to the same material simultaneously. This means that through the libraries, students and staff in various African Universities can have access to the same e-books or e-journals as those in Harvard or Cambridge.

Library Systems

In Sub-Saharan Africa, university library operations remained manual until around 1985 when ICTs were introduced. At that time, PCs and CD-ROMs were used for literature searches.⁸ Later, local databases such as the African Index Medicus were developed using micro CDS-ISIS. Electronic mail started with the dial up system and has progressed to wireless connection. Library materials were accessed by searching the manual subject and author catalogues located in the main and branch libraries. Although most University

Libraries have moved from manual to electronic systems, with online public access catalogues (in the Sub-Saharan Africa region). This has been a long process and some university libraries in the region have not started yet, and others are just starting.

The library systems used by some local university libraries were demonstrated at a Sub-regional conference in 2005. Makerere University library, for example, acquired a Virtua-Integrated Library System (ILS) including an Oracle server in 2003. This has been one of the greatest benefits of ICTs to the Library, Makerere and the world at large, in that it is enabling access to the Library collection online, available at <http://libis.mak.ac.ug:8000>.

Recently, six university libraries in Nigeria joined Makerere University in using Virtua ILS: they are: University of Jos, in Jos; Obafemi Awolowo University, in Ile-Ife;

University of Ibadan, in Ibadan; Ahmadu Bello University, in Zaria; University of Port Harcourt, in Port Harcourt; and Bayero University, in Kano. All six universities are part of the seventeen Federal Universities in Nigeria.

Examples of other University Libraries' systems are:

ERUDITE system at the United States International University, Kenya

ADLIB at the University of Dar es Salaam, Tanzania

INNOPAC at the University of Zimbabwe Library

VIBUSMART at the University of Nairobi, Kenya

ISIS and WEBLIS, at the sokoine University of Agriculture, Tanzania; and Uganda Martyrs University.

Provision of Information Services for Special Needs

In the past, some African Universities paid little or no attention to issues of human rights and equity. Most universities and university libraries now go an extra mile to cater for the interests and capabilities of all library users. Special provisions have been made for information resources and ICTs for Library users with disabilities. Furthermore, space, furniture and other gender sensitive provisions are also catered for in some university libraries.

PERSISTENT CHALLENGES

Although various achievements have been recorded in university libraries in our region, there are still some challenges which need to be addressed. They include:

Growing Student Numbers versus Available Library Resources

Many Universities in Sub-Saharan Africa are faced with the growing student numbers and yet the library infrastructure and budget do not improve accordingly. Most books and journals are outdated and do not match the current programmes. The library user-computer ratio remains a challenge. At Makerere University, the institutional target is 1:5, and yet the overall university ratio was 1:25 in 2006. As African universities struggle to address the user-computer ratio by acquiring more computers, the bandwidth gets less and less. Consequently, inadequate connectivity and bandwidth hinder the utilization of online resources and the success of digital initiatives.

Special Needs Users

As already pointed out, some African universities admit and endeavor to make provisions for special needs students. Makerere University, for example, has been admitting students with disabilities ranging from the blind and visually impaired to those with physical disabilities since 1993. Given the ever-increasing number of students with disabilities admitted to Makerere University which unfortunately comes with the ever increasing changes in the information age, the provision of appropriate information services to the library users with disabilities has become a challenge. Students with disabilities have to cope with the high academic demand put to all students, irrespective of their ability or disabilities, to obtain information from similar sources including the use of electronic materials. Such information resources are currently limited and many such students are not able to access appropriate ICT resources or computer laboratories as their able-bodied counterparts do, and yet the academic demands are the same for all students. The specialized information needs of library users with disabilities in general are yet to be met by most university libraries in Africa. Indeed ICTs would increase access to information resources but the cost of specialized ICTs for library users with disabilities is the challenge.

Inadequate Budget

Although university libraries in Sub-Saharan Africa have embarked on different funding strategies to ensure that library services continue running as expected and donor funded projects are sustained,⁹ inadequate funding has remained one of the key challenges to meeting the needs of library users. During the 2005 Sub-regional Conference, for example, university library representatives repeatedly highlighted limited funding as a major set back.¹⁰ It was then recommended to integrate the maintenance and sustainability of ICTs in libraries into the main/central university annual budgets. University librarians are expected to follow up the implementation of this recommendation. At Makerere University, for example, a Technology Fee has been introduced to be paid by all students starting with the 2008/09 academic year.

Quality Assurance and Standards

Libraries are key to ensuring quality teaching, learning and research. Meeting the international and national (and sometimes institutional e.g. the computer-student ratio at Makerere) standards remains a challenge. Library space, as one of the standards required for quality assurance, is another major challenge given the growing student numbers as already reported. Space is indeed a problem in most university libraries in Sub-Saharan Africa, and yet it requires substantial funding. Countries in the region have national standards to follow. The Uganda National Council for Higher Education sets standards based on international guidelines but modified to cater for the realities on the ground.

Copyright and the Digital Age

The digital age has brought good developments as well as challenges to librarians. One of them is the difficulty of enforcing 'fair use' in photocopying, downloading, etc among library users. The librarians play their role by raising awareness of library users about fair use. This, however, remains a challenge as librarians are not in position to follow library users on how they use the documents photocopied, downloaded or

loaned from the library. The Makerere University Intellectual Property Policy, passed early 2008, is expected to strengthen the protection of intellectual property.

COLLABORATION, NETWORKING AND DEVELOPMENT SUPPORT

The benefits of collaboration, consortia, networks and peer support have been emphasized in information science literature for a long time. Most of the success stories reported by African University Librarians^{11,12} revolve around collaboration and networking within institutions to lobby policy makers, within the country to form consortia and share the subscription of e-resources, build capacity and get professional support. The actual and potential of networking, cooperation and digitization (described above) in modifying the functions of acquiring, storing and disseminating information and knowledge, therefore, need to be supported.

There are various collaborative projects or initiatives as outlined below. Most African universities relate well with other national and international professional bodies and they make contribution to the LIS profession in various ways, e.g.

- The university libraries have formed Consortia of National University Libraries in Kenya, Tanzania, Uganda, Zambia, etc and participate in various areas of cooperation including sharing of skills, information materials, retraining, etc. At regional level, there are Standing conferences of University Librarians in West Africa as well as one for Eastern, Central and Southern Africa;
- Most Sub-Saharan African university libraries are members of the INASP/PERI programme and or eIFL, which aim to promote usage of the global scholarly e-resources by the academic community, researchers and librarians;
- Some libraries are members of the International Federation of Library Associations (IFLA). This gives them opportunities to network with colleagues from the developed and well resourced libraries;
- Qualified librarians collaborate with LIS academia by e.g. teaching part-time and supervising students at Schools of Librarianship;
- African university libraries organize and host national and international seminars, workshops and conferences to further the collaborations and networks.

Furthermore, Makerere University Library, for example, has collaboration with the University of Bergen Library in Norway, University of Uppsala Library in Sweden, University of Tennessee and Case Western Reserve University in the US.

Several other university libraries in the region (e.g. university libraries in Nairobi, Dar es Salaam, Zambia and Zimbabwe) have partnerships with the Association of African Universities, and other organizations. Some of these University libraries are supported by development partners such as Sida/SAREC, Carnegie Corporation of New York, NORAD, IDRC as well as United Nations agencies.

An important issue is the need for donor funding to support the existing university library strategic priorities, rather than donors 'imposing' their own priorities. Although

most University libraries would not reject funding for donor-set priority areas, these projects are not sustainable as they tend to derail the university library from its own priority agenda. Hence, at the end of such projects, the library is eager to get back and concentrate on its priority agenda and to look for funds for its priorities, for which the library is accountable. Funding the library's existing strategic priorities, therefore, enhances long-term and sustainable development of the Library. Sustainability of donor funded projects is one of the topical issues most Sub-Saharan African Universities are trying to address. As Manda pointed out, inadequate and short-term donor funding has had negative effects on library development.¹³

CONCLUSION

Sub-Saharan African university library users and librarians have reported some achievements and successes in addressing the changing needs of university library users. Most University Libraries' plans and activities emphasize a user-centered approach in all their operations. The librarians are prepared to modify their roles, acquire new knowledge and skills to be able to remain relevant to the university library environment and its changing demands. There is, therefore, need to build on the achievements, share experiences and best practices through collaboration and networks. Furthermore, Library Schools need to revisit their curriculum/study programmes to be able to prepare LIS graduates for the user-centred and IT driven Library environment. This is important because University Libraries are the major employers of LIS graduates in the region.

While most University Libraries in Sub-Saharan Africa have managed over the last 5–10 years to make noticeable improvements in the general level of service delivery to students, academics, researchers and to the university community in general, the issues highlighted above tend to limit the extent to which even the most innovative librarian can go. These areas require additional support in order to provide efficient and effective Library and information services to meet the changing needs of users. Sustainability of donor funded projects remains a challenge, which hopefully can be overcome by appropriate planning and support from the central University administration.

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