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Consortia Building among Libraries in Africa, and the Nigerian Experience

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Abstract

This study focuses on consortia building among libraries in Africa, with special attention given to Nigeria. It covers the various forms of library consortia: formal and informal as well as cooperative interchanges, including partnerships for resource sharing. Affirming the aim of consortia building as strengthening libraries and library services, the study considers the problems and prospects that are associated with consortia building in Africa and proposes a way forward. It concludes with an affirmation of the need to embrace consortia building among libraries in Africa and an emphasis on the key role ICT (Information and Communication Technologies) plays in consortia development.

Keywords: Consortia, Libraries, Africa, Nigeria, South Africa.

Context

It commonly is understood that around the globe, given current ICT (Information and Communication Technologies) developments, there is occurring a paradigm shift that sees among other things libraries moving from owning specific physical information items in a local collection to providing access to many information sources regardless of their format and location. This shift from ownership to access appears to be a force that also promotes consortia building. While local collections are still important for heavily used paper format materials, access to distributed information resources continues to grow in importance.¹ Today, libraries are challenged more than ever to offer traditional services while at the same time providing a range of new and often costly resources and services to their users. This challenge is met best through collaboration with other libraries.²

Globally, the development of new technologies with a concomitant exponential increase in the amount of information available has made the building and expansion of library consortia an imperative. Since information now can be readily digitized and delivered electronically, this rapidly is becoming the preferred means of information retrieval.³ Given this trend, in order for libraries to meet expectations they must develop new

strategies to obtain and use shared digital resources and services. Thankfully, not only do new technologies promote digitization, they also expand the possibilities for innovative cooperation. In an effort to increase awareness and promote development of consortia, this paper focuses on the successes and challenges of consortia development in Africa, with particular attention given to some of the challenges facing collaborative initiatives in Nigeria as perhaps typical of other regions on the continent. Admittedly, these challenges are daunting, but identifying and understanding them will hopefully support efforts in promoting and expanding library consortia in this part of the world.

Consortia Building: What Is It?

A consortium, by one version of *Webster's Dictionary* definition, is "an agreement, combination or group (as of companies) formed to undertake an enterprise beyond the resources of any one member." A consortium also "usually involves collaboration among direct competitors."⁴ Arising from observations within the Chinese context, but with applications globally, librarian Allison Zhang notes that while consortium building often expresses itself in resource sharing, it could also include a planned process of getting libraries to share human resources, bibliographic data and various other services found in

each of the operating libraries that are part of the sharing group.⁵

To be sure, library consortia vary widely in their type, goals, structure, membership and funding.⁶ The organizational framework and structure of the consortium may be a formal or informal agreement between libraries based on some common principle or principles. It may also take the form of a cooperative arrangement among several libraries that could involve the loaning of books, interlibrary exchange of staff, or an electronic network interconnecting different libraries for shared access to resources.⁷ Most commonly, a library consortium encompasses similar types of libraries: academic, special (such as medical or corporate), or public. A consortium may also be geographically based and include several types of libraries. However, what remains unclear in some of the professional literature is a precise distinction between a library consortium and a library association, other than the connotation that a consortium may be a more closely knit group and created for some specific purpose.

Genesis of Consortia Building

The first steps towards consortia building involved interlibrary loan arrangements between libraries.⁸ As a result of what commonly is termed the "information explosion," it became virtually impossible, certainly within the African context, for any library to acquire all the useful publications related to even a single area of interest to a library user.⁹ Even libraries with sizable collection development budgets were having difficulties in coping with this increase. By way of example, in recent times, according to a study of a new renaissance in library consortia development in New Zealand,¹⁰ libraries have encountered serious reductions in funding at the same time of rapidly increasing costs of information resources. Today, in a climate of global economic decline libraries are faced with the challenge of providing better services with shrinking budgets.

Given the rapid pace of development in

the field of information technology leading to the emergence of networked information services, many consortia of different types have come into existence all around the world. It is against this background that quite recently libraries in Africa facing similar financial challenges have also moved to cooperate more extensively in sharing their resources for the benefit of their users,¹¹ although the pace of development has been relatively slow.¹² In Africa, the notion of cooperation, described as a "universal language spoken in different dialects,"¹³ emerged as libraries explored each other's common strengths and limitations and as they realized that, together, things can be done better and greater resources could be made available. Many library leaders saw the utilization of electronic networks as the means to expand access for research and study purposes, and to meet more general information needs.¹⁴

The Mission of Consortia

Generally, the *mission* of a consortium is to fully utilize and develop the information resources of their libraries for the purpose of promoting education, research and lifelong learning. Given this mission, the *vision* is to create a virtual library by linking together participating organizations via electronic networks. An overview of some of the principal library consortia in Africa (described in the following section) reveal that their *objectives* based on this mission and vision include the following:

1. Establishing a formal relationship between the members of the consortium in order to foster cooperation and communication.
2. Supporting the information needs of clients through regional cooperation, while encouraging each member to build good, basic collections sufficient to meet the needs of its clients.
3. Promoting resource sharing and enhancing access to information, formulating appropriate collection development and acquisi-

- tions policies among members, and exploring opportunities for cost savings.
4. Facilitating access to information through shared computer systems and networks.
 5. Utilizing appropriate and current technology and keeping abreast of new technological developments.
 6. Improving information literacy among clients and sharing training resources and expertise where appropriate.

Library Consortia in Africa

The most vigorous and successful development of library consortia has occurred in South Africa and neighboring states. While there were some cooperative library initiatives prior to 1990, it was during the period from 1992 to 1999 that saw the most significant advances, although some consortia may have been more "conceptual" and less operational. A study completed in 2002 shows that by the turn of the century, however, there were only a few functioning consortia in Africa,¹⁵ this despite serious efforts among African universities in particular to foster library cooperation through the Association of African Universities (AAU) and with support of the International Development Research Center.¹⁶ The following provides an overview of some of the more significant library consortia in Africa.

South African Bibliographic and Information Network (SABINET)

SABINET was established in 1983 as a non-profit organization to provide a bibliographic utility for South Africa. Responsible for cataloging books, journals and materials in Southern African libraries, by the late 1990s this online information network contained approximately 2.5 million bibliographic records with more than 7 million holdings.¹⁷

CAPE Libraries Cooperatives (CALICO)

CALICO was established in 1992 through monetary support from the Ford Founda-

tion, an amount matched by funds from the Desmond Tutu Educational Trust. Being the first library consortium formed in South Africa, it now consists of five institutions in the Western Cape. Its mission was modified somewhat in 2004 but remains essentially, "to promote information literacy and economic development of the region by providing information to users in the form they want, when and where they need it, and at an affordable price."¹⁸

Free State Libraries and Information Consortium (FRELICO)

Centered in the Free State province of South Africa, FRELICO, established in 1996, is now comprised of three university libraries, two technical institution libraries, and one public/legal depository library. It serves more than 25,000 students, faculty and researchers affiliated with member institutions.¹⁹

Gauteng and Environs Library Consortium (GAELIC)

GAELIC was founded in 1996 as part of the efforts of the Foundation of Tertiary Institutions of Northern Metropolis (FO-TIM) to support a cooperative venture among regional libraries in Gauteng province. In recent years it has grown into the largest academic library consortium in Southern Africa covering three provinces in South Africa as well as the universities of Botswana and Lesotho. The University of Namibia Library also participates in some GAELIC initiatives, though no longer a full member of the consortium. This cooperative is meant to meet the future educational and training needs on regional, national and international levels.²⁰

Eastern Seaboard Association Libraries (esAL)

Initiated in 1997 and based in Kwa-Zulu-Natal province, esAL is a partnership initially comprised of six, then eight, academic libraries. Following some institutional changes, four member libraries emerged that serve a large number of campuses, students, faculty and staff.²¹

South East Academic Library System (SEALS)

This consortium, as a subset of Eastern Cape Higher Education Association, existed first as a project that began in 1996, but then emerged as a formal consortium in 1998. Centered in the Eastern Cape Province in South Africa, it consists of four academic libraries whose scope of cooperation initially was limited to periodicals and CDROM products but whose mission later expanded considerably, namely, "to foster improvement in access to information resources, to support and embrace high standards of teaching, research and scholarship in member institutions by promoting resource sharing of human, material and information resources between academic libraries within the region."²²

South African National Library and Information Consortium (SANLiC)

SANLiC was formed in 1999 with a vision, "to enhance access to information and the sharing of resources to benefit the clients of consortia in South Africa through national cooperation."²³ SANLiC continues to thrive in its mission to broker national site licenses to electronic resources, to support member participation in the National Catalogue, and to advance inter-lending agreements. Its members now include the Cape Higher Education Consortium, Foundation of Tertiary Institutions of the Northern Metropolis (FO-TIM), Eastern Seaboard Association of Tertiary Institutions (esATI--of which esAL is a member), South East Academic Libraries System (SEALS) and South African National Research Information Consortium (SANRIC).²⁴ While not consortium members in the full sense, The National Library of South Africa and the Library and Information Association of South Africa are "general members." Having a full-time manager, conducting regular meetings of the membership, and providing an online news service helps to position this organization as a leading library consortium in Africa.

Other Initiatives

In addition to consortium development in the southern regions of Africa, other cooperative ventures should be mentioned, though not in the full sense deemed "consortia." The Cataloging Network (CATNIP) in Pietermaritzburg, South Africa, is designed ostensibly for sharing cataloging records, and the exchange of materials on a regional scale.²⁵ On another front, the International Federation of Library Associations and Institutions (IFLA) has initiated projects in Ghana and Kenya that, since 1993, have electronically linked the main university libraries. As well, a grant from UNESCO has enabled the National Library, the National Archives, and the Ministry of Education in Namibia to set up a network to provide mutual direct access to their computer databases and to the internet. The University of Namibia Library through the Communication and Library Project (COMLIB) funded by the Belgian Government, has since 2000 offered internet access through a network of University-based computers.²⁶

The Case of Nigeria

While there have been notable successes in establishing consortia in Africa, there still remain significant challenges. An overview and analysis of the situation in Nigeria, perhaps typical of other regions of Africa, reveal more precisely the nature of these challenges. Simply put, despite the advances in collaboration through the Association of African Universities (AAU) and other groups, inadequate access to the internet continues to remain *the* significant problem in Nigeria, and this presents significant challenges to library administrators. As F. E. Etim reports, libraries throughout the country, Africa's most populous, have tried to obtain access to the latest information, to improve the dissemination of information, and to provide high quality library services, but these efforts have failed because of a lack of appropriate technology.²⁷ Based on research presented at the University of Uyo in 2006, only 13 of 24 federal university

Country	Internet Use per 100 Population
United States of America	75.1
Sweden	57.3
Korea	55.2
South Africa	6.8
Gabon	1.9
Senegal	1.1
Ghana	0.8
Benin Republic	0.8
Cote d'Voire	0.5
Cameroon	0.4
Nigeria	0.3
Angola	0.3

Table 1: Internet Use, 2000: Comparison by Country²⁸

libraries in Nigeria have adequate information technologies that enable them to connect to the internet or otherwise have a functional computer network.

Internet connectivity has become a "make or break" issue for consortium building not only in Nigerian but across the continent. The extensive study by E. J. Wilson and K. Wong of the Center for International Development and Conflict Management, University of Maryland, found the following.

"Africans are moving ahead on their own terms, participating in the global information revolution and capturing some of its benefits.... Precisely because the revolution is as much a policy and institutional revolution as a technological revolution, Africa remains at a distinct disadvantage precisely because like all poor regions its institutions are notoriously weak. The legacy of poverty, colonialism and political misrule, weak institutions, half-hearted leadership and conservative policies [sic] do not auger well for rapid change. There will continue to be advances, and some countries in Africa will certainly do better than others. But across the continent the institutional and leadership commitments to advancing ICT are still modest, and that lackluster performance will only accentuate the gap

between the ICT haves and have-nots globally."²⁹

For comparison purposes, table 1 shows several countries and their internet use.

Across Africa the quality and extent of internet access is poor, and in Nigeria the rate is an abysmal .3% of the population.

By the late 1990s, despite (and perhaps because of) this low level of internet access so crucial to consortium development, there have been more than a dozen initiatives over the past ten years to create interlibrary and inter-institutional networks through the National Research and Education Networks (NRENs). Participating organizations include: Nigeria Universities Management Information system (NUMIS); Nigerian Universities Network (NUNET); Nigerian Education and Research Network (NEARNET a collaboration of NUNET, poly Net and Teach Net); eIFL (Electronic Information for Libraries); National Virtual (Digital) Library Project (NVLP); Nigerian Virtual Library Consortium (VLC)

Of these, the Electronic Information for Libraries deserves special mention because of its success, albeit still rather modest. Beginning in 2001, eIFL strives to initiate, negotiate and support wide-spread availability of electronic resources for libraries in devel-

oping countries. Seeing its main work as both negotiating subscriptions on a country-wide basis and supporting and providing training for emerging national consortia in member countries, eIFL provided interested Nigerian university libraries with three years of free access to a suite of full-text databases. While university libraries were thrilled to have access to these important resources they simply did not have the infrastructure or equipment to take full advantage of them, and it was only towards the end of the three years that some institutions began to provide access on a regular basis. As the funding program drew to a close and libraries were expected to pay their own way, eIFL encouraged libraries to form consortia for cooperative purchasing. To help bring libraries together, the organization also provided workshops and other practical guidance.

As an outshoot of this eIFL initiative, the Consortium of Nigerian Libraries (CONLIB) was formed, led by Dr. Doris Bozimo, University Librarian at Ahmadu Bello University (ABU) Zaria, and Rilwanu Abdulsalami from the National Universities Commission. Various projects were developed and funding obtained, including a grant of \$293,000 (US) from the Open Society Initiative for West Africa to support connectivity in selected universities in Nigeria for a two-year period from late 2004 to late 2006.³⁰

Despite these encouraging developments, it appears that CONLIB really did not thrive, and judging by the closing of its websites, the consortium may have folded. Two factors may have conspired against its success: both the lack of government support for higher education and the rapid development of new private universities leading to a more competitive education environment. These have effectively put an end to consortium building and inter-library loan programs that held such early promise.

Nigerian Universities Network (NUNet): a Case in Point

While not ostensibly a library consortium, a closer look at the development of the Nigerian Universities Network (NUNet) further illustrates some of the challenges. NUNet was an ambitious project initiated by the National Universities Commission (NUC) in 1995 to “establish internet connectivity for the Nigerian University System (NUS).”³¹ Unfolding in three phases, the project was designed first, to establish a national computer network using dedicated phone lines, then to migrate to dedicated data lines for email services, and then upgrade the system for full high-speed internet connectivity. By the time the project was to be completed in 1999, it was expected to have over 65,000 computers networked.³² The reality, however, unfolded differently.

One key major obstacle was the lack of reliable telecommunications and sporadic electrical supply that caused universities in remote locations (the majority of Nigerian universities) to be unable to tap into the network. Other universities in more accessible regions also could not participate effectively because campus LANs and WANs were not well developed, or were absent altogether.³³ In a report to the international agency, Network Startup Resource Center, A. Ibrahim describes the problems of NUNet as follows:

...[T]he World Bank commissioned a review [in 2000] and feasibility study of NUNet and the report...provided conceptual plans and topology. The sum of USD 16.2 million (out of the total grant of \$100 m) was approved for the NUNet component of NUSIP [Nigerian University System Innovation Project]. ... Intranet Consultants and an International Internet Consultant were appointed, and the first Planning Workshop was held in March 2002. Unfortunately, disagreements arose between the World Bank and the NUC/Federal Ministry Education (which sought to change project

components and modalities), and the entire project intervention was cancelled... [T]he institutional user-base of NUNet has dwindled with increasing deployments of VSATs [very small aperture terminal, a two-way satellite ground station with a dish antenna less than 3 meters tall]. At the same time, the availability of free web-based mail services and the lack of intranet services in the universities has hindered the building of true network communities even within institutions, so that most campus networks are really not more than cyber-café." ³⁴

The good will and ambition evident in this project have suffered, it seems, by factors both internal and external. These mitigating factors have left library and academic collaboration, at least by late 2004, in ruins. While the NUNet experience to some extent may be representative of the struggles in creating viable consortia, what more clearly are the challenges facing library collaboration in Nigeria?

Obstacles and a Way Forward

On a very basic level, all of the issues may be reduced to questions of funding. Funding for libraries has decreased in recent years across the globe, but especially so in developing countries where the priority of national governments might not be library development. According to the Mortenson Center Report on library development in Nigeria, irregularities in budget planning make it difficult for a library to secure consistent funding and to realize effective development. Specifically, funding deficiencies have led to challenges in several areas that affect consortia building. ³⁵

1. Unreliable electrical infrastructure

From the outset, libraries need a reliable electrical power supply in order to provide access to electronic resources. As a Mortenson Center Report states, "Reliable power is a precondition for the proper functioning of modern library services, a precondition that does not

exist yet in the [Nigerian] university libraries ... visited." ³⁶ Having a reliable power grid is a problem that has plagued Nigeria and other parts of Africa for a long time, but if the government at all levels cannot rectify this problem, libraries essentially shut down as information providers. Users quickly tire of seeking resources that simply are not available. ³⁷

2. Inadequate ICT infrastructure

Creating an adequate ICT infrastructure continues to be a major challenge facing libraries in Africa, especially in Nigeria where even a reliable electrical grid remains a question. Most libraries in Nigeria lack the necessary computing infrastructure to provide needed services. Computers loaded with appropriate software, connected to routers, and a high speed or fiber-optic data transmission backbone, along with skilled technical support, are often lacking at the institutional level. As the need for consortia becomes stronger and as more electronic resources are made available to individual libraries thorough consortial agreements, students and faculty alike will rely more heavily on these resources and on the internet that supports them. Without a capable local ICT infrastructure a library cannot fully be part of a functioning consortium.

3. Sporadic and inadequate access to the internet

Having a reliable power source and a robust *local* computing network does not necessarily mean adequate internet access. Libraries providing electronic resources also need sufficient bandwidth to reach beyond the borders of its campus or community. Unfortunately, this remains a problem in Nigeria and in other regions of Africa. While there have been some consortial efforts to improve and expand bandwidth, ³⁸ this perhaps still remains the weakest link in the fuller development of consortia and to actualize the potential advantages of resources available through recent open access initiatives.

4. Lack of staff training

Many library staff members have not had

adequate training in construction, maintenance and development of information and communication technologies. In fact, the greatest need for professional expertise and technical know-how likely lies in areas such as LAN management, network design, back-up systems, assuring data integrity and network security, and managing operating system software.

5. Lack of electronic access

Since libraries all over the world increasingly have been better able to share resources electronically, many libraries deal with budget constraints by strategically embracing "access" rather than "ownership" of resources. Unfortunately, this remains largely an ideal rather than a reality in Africa. While libraries on other continents are coming to depend on full-text electronic access to journals and other resources, most libraries in African countries find that African scholarly materials are still largely available only in print.³⁹ This dependence on print, again, tends to limit the appeal of, or the ability to form, library consortia in Africa, and especially so in Nigeria. Moreover, libraries tend to have only rudimentary websites, if at all, and those that do exist rarely integrate web 2.0 applications and other services that allow effective and robust electronic access to holding and full-text materials.

Despite these rather large and daunting challenges, there are some concrete measures that libraries could consider to improve the situation. As a first step, cultivate a better financial climate in which consortia development can be nurtured. A study by A. Alemne and I. Antwi suggests four steps to improve library funding.

1. Request a percentage of allocation of the university budget. (The annually budgeted amounts need to be made available to the library in a timely fashion.)
2. Insist that money from income generating activities is paid into a separate library account rather than the general university account.

3. Campaign for decentralization of university budgets so that the library has control over its own expenditures.
4. Insist that a percentage of outside funding of university faculties and departments come to the library so that it is able to adequately satisfy the information needs of its users.⁴⁰

In addition to these suggestions, financial and material support from donor organizations, such as Open Society Initiative for West Africa (OSI-WA)⁴¹ should be exploited more widely. As well, large publishers and database aggregators in more developed countries sometimes have funding and resources (both print and electronic) available to countries in Africa. Companies such as Oxford University Press and EBSCO should be appealed to for assistance. This most effectively is done collaboratively. Note, however, that it is important for funding proposals to be well researched and skillfully written.

Once the financial resources are in place, libraries need to move forward aggressively in digitizing scholarly works and other print materials. This not only enhances the possibilities for access and consortia building, as Kanengo emphasizes, but also addresses preservation concerns.⁴² Moving forward more aggressively on this front requires librarians to receive intensive and comprehensive training in the development of library websites and internet portals. On a broader level, the importance of having an effective and strong national union catalogue in each country cannot be overstressed. This becomes the meeting place, so to speak, for resource sharing and consortia development. Of course, this presupposes the existence of and adherence to bibliographic policies and standards for cataloging and archiving.⁴³

The larger issues of information technology and communications infrastructure on a regional and national scale and of a reliable electrical grid may be beyond the control of the li-

brary, but knowing about the issues helps libraries advocate for improvement whenever the opportunities arise.⁴⁴ As well, library leaders in Africa need to become knowledgeable about new developments in communications, and in particular, understand the potential benefits of VSAT technology and other broadband satellite connectivity.

Conclusion

While there are many problems thwarting the efforts of libraries in forming or joining a consortium, libraries throughout Africa should be encouraged in every way to participate in these partnerships. Perhaps some of the recent successes in developing library partnerships in South Africa, such as SANLiC, might be seen as models of consortia building. The benefits of library consortia are significant,⁴⁵ and with the development of new and robust information and communication technologies, as A. Ojedokun and E. Lumande of the University of Botswana suggest, "the possibilities of innovative interlibrary cooperation projects emerge: libraries combining their efforts through various cooperative electronic networks are trying to get access to electronic information sources more economically."⁴⁶

In addition to ICT development and innovation, other factors driving the creation and expansion of consortia in Africa include: globalization of economic and educational opportunity and responsibility; the exponential growth of information; the rapid elevation of expectations among researchers and information seekers for access to a wide range of materials; dwindling budgets of libraries that necessitate ever greater resource sharing and wider economies of scale.

While this article has taken the broad view of the situation in Africa generally, its specific focus has been on Nigeria as a case study of some of the particular challenges in consortia building. From the Nigerian experience, certain imperatives can be identified that need to be met in order for consortia to realize more fully the promise they hold. First, administrators of Nige-

rian libraries need to create locally the mechanisms needed to foster participation consortia building, including programs for adequate staff training, ITC infrastructure development, institutional information policy development, and adherence to bibliographic standards. Second, the local library, as much as possible, should insist on adequate funding, maintenance of hardware and software upgrades, and staff training in ICT services. Third, the Nigerian Library Association should solidify its key role in promoting consortium building across the country, and seek government support of these initiatives. Fourth, collectively, Nigerian libraries, following the model of OCLC's WorldCat, need to standardize and adopt one primary classification system. Fifth, locally and collectively, Nigerian libraries need to pressure other agencies and utility companies to provide a broader and more reliable electrical grid. Sixth, library workers need to support all efforts of The Librarians' Registration Council of Nigeria to expand and enhance library education in the country, and to help create a profession that embraces technological opportunity.

Clearly, the challenges in consortia building in Africa are daunting, especially when many of them come from outside the profession and which have national or international origins. Building on the successes of the past, however, and taking full advantages of the potentials of developing new information and communications technologies, and by embracing the shift in library policy from ownership to access, perhaps a greater harvest of benefits from consortia partnerships can be obtained in Nigeria and in other regions of Africa.

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²⁵ Hester Marais, "Co-operative Cataloging in South Africa with Special Reference to the Gauteng and Environs Library Consortium (GAELIC)." Conference Proceedings, World Library and Information Congress, 73rd IFLA General Conference and Congress, Durban, SA,

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²⁶ A. A. Alemna and I. K. Antwi, "A Review of Consortia Building Among University Libraries in Africa," *Library Management* 23/4-5 (2002): 234-238. See also: www.uneca.org/aisi/nici/country_profiles/namibia/naminter.htm

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²⁸ F. E. Etim, "Resource Sharing in the Digital Age: Prospects and Problems in African Universities," *Library Philosophy and Practice* 9/1 (2006). <http://unllib.unl.edu/LPP/etim.pdf>

²⁹ Wilson, Ernest J., III and Kelvin Wong, "African Information Revolution: a Balance Sheet." *Telecommunications Policy* 27/1&2, (February-March, 2003): 16.

³⁰ See NLA website: <http://www.nla-ng.org/nigeriaelfl.html>; see also, Report by the Mortenson Center for International Library Programs, 2005. <http://www.library.illinois.edu/mortenson/activities/reports/>

³¹ Ajibola Maxwell Oyinloye, "Electronic Networking of Libraries and the Development of an Information Society in Africa," *Information Development* 15/4 (December 1999): 219; and <http://idv.sagepub.com/cgi/content/abstract/15/2/217>

³² Ajibola Maxwell Oyinloye, "Electronic Networking of Libraries and the Development of an Information Society in Africa," *Information Development* 15/4 (December 1999): 217.

³³ Aminu Ibrahim, "Description of NU-Net Topology and Connectivity – Initial and Current Status." See: <http://www.nsrc.org/AFRICA/NG/UNET-Nigeria.pdf>.

³⁴ Aminu Ibrahim, "Description of NU-Net Topology and Connectivity – Initial and Current Status." See:

<http://www.nsrc.org/AFRICA/NG/NUNET-Nigeria.pdf>, p. 2.

³⁵ Report by the Mortenson Center for International Library Programs, 2005. See: <http://www.library.illinois.edu/mortenson/activities/reports/>

³⁶ Report by the Mortenson Center for International Library Programs, 2005. See: <http://www.library.illinois.edu/mortenson/activities/reports/>

³⁷ Report by the Mortenson Center for International Library Programs, 2005. See: <http://www.library.illinois.edu/mortenson/activities/reports/>

³⁸ See : <http://www.nla-hg.org/nigeriaelfl.html>

³⁹ For a discussion of the current [2009] state of scholarly output from Africa, see Christine Wamunyima Kanyengo, "Managing Digital Information Sources in Africa: Preserving the Integrity of Scholarship," *The International Information & Library Review* 41/1 (March, 2009): 3-4.

⁴⁰ A. A. Alemna and I. K. Antwi, "A Review of Consortia Building Among University Libraries in Africa," *Library Management* 23/4-5 (2002): 234-238.

⁴¹ See : www.nla-ng.org (Caution : This site triggers security warnings).

⁴² Christine Wamunyima Kanyengo, "Managing Digital Information Sources in Africa: Preserving the Integrity of Scholarship," *The International Information & Library Review* 41/1 (March, 2009): 1-3.

⁴³ Christine Wamunyima Kanyengo, "Managing Digital Information Sources in Africa: Preserving the Integrity of Scholarship," *The International Information & Library Review* 41/1 (March, 2009): 6.

⁴⁴ E. M. Miamibo, "Partnership in Libraries: Cornerstones of Access: the Case of Institute of Development Studies Library University of Zimbabwe." Paper presented to the American Library Association conference, June 13-19, 2002.

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