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# Open Access Initiative and the Developing World

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## Abstract

*In a world of inequality, the open access initiative seeks to provide people all over the world (irrespective of where they live) with equal access to knowledge and information. This paper examines the concept of open access initiative from the perspective of the developing world, highlights the benefits developing countries stand to gain from the open access initiative, as well as the obstacles to the realisation of the initiative, in the developing world. The paper also provides recommendations as to what governments, educational and research institutions in developing countries, as well as organisations and groups in developed countries, need to do in order to facilitate the realisation of the noble objectives of the open access initiative in the developing world.*

## Introduction

The Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities restates an obvious truth to the effect that the "mission of disseminating knowledge is only half complete if the information is not made widely and readily available to society". The dissemination of knowledge through academic and scholarly research journals, as well as the use of the same by scholars and members of the academic community, is not new. Before the advent of the Internet, the academic community relied

heavily on research articles in offline journals published by many commercial publishing houses and made available to libraries that chose to subscribe to the journals. Only a small number of libraries in the developing world could afford such journal subscriptions. Considering the fact that these journals are published in the developed countries, researchers in developing countries had to wait for few months prior to the arrival of journals by surface mail. The advent of the electronic file technology resulted in gradual transformation of these journals from mainstream hard copies to electronic copies. Many academic libraries followed this trend and switched over to this new medium of dissemination of knowledge.

Access to the electronic journals is not free, as the subscribers have to pay subscription fees or site licence fees to gain access to the publication. Library subscriptions for these journals vary widely depending on the academic field which they cover. A survey by McCabe and Snyder (2006) revealed that in the field of economics for example, the average annual library subscription fees range from about \$190 to about \$1,370. In the field of science and technology, the average annual library subscription fee was \$1,200 in 2000. The imposition of subscription fees for these journals restricted access to libraries and academic/research institutions in the developed world, which could afford the cost of subscription, while excluding their counterparts in the developing world. In addition, the monopoly status of some of these publishing houses put them in a position to increase the subscription cost at will, resulting in a series of increase in subscription fees - some increase growing faster than even the inflation rate (Jeffery, 2006).

The increasing cost of subscription for these journals has been of great concern to libraries and institutions that have to contend with limited and



dwindling fund. Of greater concern are libraries and institutions in developing countries that have little or no fund to subscribe to these publications. This rising cost of subscription has resulted in many libraries and institutions in the developing world to either cancel or not renew their subscription, thus resulting in limited or restricted access to knowledge and scientific research in the developing countries of the world. Scholars, academicians and students are worried by this development, which, if left unchecked, may only result in diminished source of research materials. However, there seems to be a solution in sight. The Internet technology has brought with it a new model for dissemination of knowledge at little or no cost to both the developed and the developing world.

This paper examines the gradual emergence of the open access initiative, its advantages, as well as the problems which may hamper the realisation of the noble objectives of the open access initiatives in developing countries.

### Open Access Initiative

The concept of open access emerged in response to the restrictive access to knowledge in scholarly and scientific journals imposed by commercial publishing houses via subscription fees, licence fees or pay-per-view fees. The concept of open access has been subject to various definitions from different groups advocating the concept. The Budapest Open Access Initiative (BOAI) defined the concept in relation to journal literature as follows:

[the] free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited. (BOAI, 2002)

A fundamental step in the history of the open access initiative could be traced to the Budapest Open

Access Initiative which was a conference launched by the Open Society Institute. The opening statement of the Budapest initiative aptly reflects the objective of the open access movement:

An old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment, for the sake of inquiry and knowledge. The new technology is the internet. The public good they make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds. (BOAI, 2002)

The actualisation of open access to research journals and literature will accelerate research, enrich education, and share the knowledge of the rich developed countries of the world with the poor and less developed, and vice versa, thus uniting humanity in a common intellectual conversation and quest for knowledge. In June 2003, the *Bethesda Statement on Open Access Publishing* was released. The document, in addition to providing a working definition of open access publication, was a declaration by stakeholders in the biomedicine research community setting out the procedure each stakeholder needs to take, in order to promote a gradual transition to open access publishing.

In a conference in October 2004, hosted by the Max Planck Society in Berlin, the participants adopted *The Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities*. This was another historic event in the open access movement. The Berlin Declaration, which provided a working definition of open access contribution, went further to highlight the steps to be taken to promote the transition to electronic open access paradigm. The steps established are as follows:

1. Encouraging researchers/grant recipients to publish their work according to the principles of the open access paradigm.
2. Encouraging the holders of cultural heritage to support open access by providing their resources on the Internet.
3. Developing means and ways to evaluate open



access contributions and online-journals in order to maintain the standards of quality assurance and good scientific practice.

4. Advocating that open access publications be recognised in promotion and tenure evaluation.
5. Advocating the intrinsic merit of contributions to an open access infrastructure by software tool development, content provision, metadata creation, or the publication of individual articles. (Berlin Declaration, 2003)

Similarly, the UN World Summit on the Information Society Declaration of Principles and Plan of Action recognised, among others, the importance of education, knowledge, information and communication in human progress, and the pivotal role of information and communication technology (ICT) in reducing many traditional obstacles in the dissemination of knowledge for the benefit of people world-over and in attaining a higher level of development. The participants at the Summit which was held in Geneva in 2003 resolved to work together to improve access to information and knowledge.

Other efforts that shaped the open access initiative include the Organisation for Economic Co-operation and Development's (OECD) "Declaration on Access to Research Data From Public Funding, 2004", as well as the International Federation of Library Associations and Institutions' (IFLA) "Statement on Open Access to Scholarly Literature and Research Documentation, 2004". The open access movement has thus continued to generate momentum from various international organisations and groups.

The concept of open access can be conveniently analysed from two perspectives: Open access publishing and open access self-archiving. Open access publishing is also referred to as the "golden road" to open access. It is a model of publishing, which makes journals available to the public immediately on publication. Under this method of publishing, research materials or scholarly works are published in open access journals. Such publications are made available primarily through the Internet "without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself" (BOAI, 2002).

Open access archiving, is a process that encourages researchers and academics to make

digital copies of their research work or publications available in open access repositories or archives. Such research work or publication could be a pre-print or a post-print version. In the case of a pre-print, the essence is usually to have such work peer-reviewed or to invite critical comments from colleagues or readers before the final version of the work is made available for publication. This procedure is usually adopted for social science research papers. Alternatively, in the field of medicine, only post-print publications are usually suitable for open access archiving because of the risks associated with pre-print works in this field (Armbruster, 2005). The repository or archive could be the personal web page of the author, a subject or discipline-based repository like the Electronic Research Archives (ERA), or an institutional repository such as the DSpace at the Massachusetts Institute of Technology.

The success of the open access model in disseminating knowledge will ensure free and uninterrupted dissemination of knowledge at an affordable cost, thus facilitating the rapid and steady growth of knowledge at a pace unimaginable (Arunachalam, 2005). This explains the reason why the model seems to have gained a wide acceptance. The model is already making an intensive in-road into legal scholarship. The best known open access resource for legal research is the Social Science Research Network (SSRN), which contains a repository of full text research papers in law and other social science disciplines (Miller, 2006).

### The Nature of Open Access Publications

There are two basic conditions that must be satisfied before a work can be classified as an open access publication. These conditions are stated in the *Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities*. First, the author(s) and right holder(s) of such contributions must grant to all users a free, irrevocable, worldwide, right of access to, and a licence to copy, use, distribute, transmit and display the work publicly, and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use.



Secondly, a complete version of the work and all supplemental materials, including a copy of the permission as stated above, in an appropriate standard electronic format, are deposited (and thus published) in at least one online repository that is supported and maintained by an academic institution, scholarly society, government agency, or any other well established organisation that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving (Berlin Declaration, 2003).

The above requirements imply that the nature of open access provides a great deal of benefits to readers of scholarly research journals, as they are granted unrestricted access to a wealth of scholarly and academic publications, subject only to proper attribution. This means the complete absence of subscription fees, site licences or pay-per-view charges, which are serious impediments to dissemination of knowledge under the old model (Armbruster, 2005). The author also benefits from the open access system. The requirement of attribution implies that the author will be cited in any subsequent work where the new author relies on the previous work. The more the work of an author gets cited, the more impact the author is able to make in his/her field of research.

In addition, in the case of pre-print publications in open access archives, the author has an opportunity to communicate with a community of colleagues with regards to his/her research publication. He/she is able to receive feedback and criticism from colleagues and the academic community which may improve the quality of the final work. Other important values of open access lie on the distribution speed and cost factors. Once an article is deposited in an open access repository, it becomes available almost immediately to the readers. There are no delays from editing, printing, or shipping, as in the case of print volumes (Miller, 2006). In addition, the method of distribution drastically reduces the packaging, the shipping and other ancillary distribution costs associated with print volumes.

### Issues and Challenges of Open Access in Developing Countries

Researchers and institutions in developing countries are the most likely to benefit from the open access initiative. This is not surprising, considering the limited

financial resources available in these countries to cater for subscription charges for research and academic journals. With less funding available to libraries and educational institutions in the developing world, the benefit of open access cannot be over-emphasised. This unrestricted access made possible by the open access initiative helps researchers in the developing world, who have to struggle with limited resources, to undertake and publish their research. It will ensure stable development in these countries, as well as curb the 'brain drain' syndrome which has resulted from the migration of many scholars and academics from the developing countries to other developed countries. Most of these scholars move to institutions in developed countries because adequate research opportunities, as well as prospect for research funding are available there. The success of the open access initiative, coupled with adequate research funding in developing countries, could check this trend.

Facilitating open access in the developing world would require promoting open access to research journals, as well as open access publishing. To this effect, some incentives have been earmarked to ensure the availability of open access journals in the developing countries of the world. For example, in 2001, Health Inter Network Access to Research Initiative (HINARI) was established in London under the auspices of the World Health Organisation (WHO) in partnership with major academic publishers with the objective of opening access to biomedical research information in developing countries and enabling them to gain access to one of the world's largest collections of biomedical and health literature (Health InterNetwork, 2001). With over 3503 journal titles now available to health institutions in 113 countries, measures such as this will greatly assist health workers and researchers in scientific research in developing countries to improve health care treatment in the regions. Other incentives in the field of agriculture include those initiated by Access to Global Online Research in Agriculture (AGORA), which provides free or low cost access to major scientific journals in agriculture and related biological, environmental and social sciences to public institutions in developing countries. Thus, open access, in addition to providing equal access to knowledge, could also facilitate development in the developing world. However, notwithstanding the



immense benefits of open access, there are also serious obstacles to the actualisation of the initiative in many developing countries.

### Research Funding

The idea of making research and scholarly journals available on the Internet for free access implies that someone will have to fund the cost of the research, production and dissemination of the materials online. The noble objective of open access initiative will not be realised if scholars in developing countries merely constitute "active consumers" and "passive contributors" under this initiative, reading only research works and publications by scholars and academics from developed countries published in the open access journals and archives. Researchers and scholars from developing countries should have the opportunity to make some input into the initiative in the form of contributing scholarly research work. Suffice it to state that the developing world is filled with highly knowledgeable and intelligent scholars and researchers; unfortunately, their skills and intelligence is often clouded by economic and technological obstacles outside their control.

Educational institutions in developing countries have very limited resources for funding research initiatives. Scholars in developing countries rely heavily on research funding from government budgets which continue to plummet every fiscal year. There are also very few opportunities for external funding, as compared to universities and institutions in developed countries which have adequate funding (both internally and externally). Merely consuming research findings from scholars and authors from developed countries will not be in the best interest of these developing countries. Most of the research works from developed countries focus on issues affecting such countries from the perspective of the developed world. Hence, effectively tackling the issues in developing countries will require serious contributions from researchers in this part of the world who are most familiar with the issues, and are in the best position to address them. According to an Indian scientist:

There are many problems, particularly health issues that are crying out for solutions. These problems will be addressed most effectively where they are felt most...We know more

about these diseases and the seriousness and gravity of the associated problems. For this reason it is important for us, in developing countries, to be able to perform [research] here. (Arunachalam, 2004)

An additional problem related to research funding is the requirement for the payment of author's fee or article processing fee in open access publication. This also serves as an impediment for authors from developing countries who may desire to publish in open access journals. According to the Open Society Institute (2004), the rationale for the processing fee is based on the premise that authors and their host institutions are the most likely to benefit from such publication. Also, the fee distributes the publication cost across to individuals and institutions that benefit directly from the publication. Whereas such processing fee may not constitute a problem to authors from institutions in developed countries whose institutions may easily undertake to pay the fees, it may not be the case with authors from developing countries. This problem could be addressed if open access journals would waive the author's fees in the case of authors in developing countries who may experience economic hardship in paying the fee.

Although some journals at present consent to waiving the fee on application by any author who may experience economic hardship in meeting up with the payment, some scholars may rather choose not to publish in open access journal, in order to avoid the seeming embarrassment of having to make a request to a journal to waive the charges on the ground of financial need. This embarrassing situation can be avoided if the journals would automatically grant such waiver to authors from developing countries without any need for a requisite application being made to that effect. One of the implications of inadequate research funding is the quality of under-funded research works from scholars in the developing world would be disadvantaged, as compared to those of their colleagues from developed countries. This may result in such research works from developing countries being rejected for publication. In addition, the fact that most open access journals rely on author's fees for funding their publication may result in bias for researchers from developed countries who can easily afford the fees, as opposed to those in developing countries who may not (Papin-Ramcharan and Dawe, 2006).



### **State of Information and Communication Technologies in Developing Countries**

The growth of and reliance on information and communication technologies (ICTs) has been the most crucial factor that has accelerated the transition to the knowledge economy. The increasingly rapid advances in computer and networking technologies have made information transfer faster and cheaper. The digital revolution has released enormous flows of information which are intensively used in the creation, application and dissemination of new knowledge (Miller, 2006).

The Internet is the backbone of the open access. Hence, the idea of equal access to knowledge would be difficult to attain where there are technical limitations or barriers to Internet access. The problem of Internet access is very predominant in the developing world, mainly due to the high cost of connectivity and the poor state of telecommunication infrastructure (Adomi et. al, 2003). In addition to this, there is often the problem of epileptic electric power supply, especially in educational institutions. Students in higher educational institutions have very limited access to the Internet connectivity at schools, and the economic realities in the region make it even more difficult for them to have one at home. The digital divide between the developed and the developing countries has a negative impact on the actualisation of the open access initiative in the developing countries. It limits access to open access journals, as much as it also limits the ability of institutions in this part of the world to establish and maintain institutional repositories or archives. The mere fact that open access journals are available on the Internet may not be sufficient to achieve the object of the open access initiative in the developing world. There is a need for Internet infrastructure availability and upgrade in developing countries if the benefits of the open access are to be maximised in the region.

### **Lack of Awareness and Misconception of Open Access Scholarship**

An additional obstacle to open access in developing countries is the misconception and lack of awareness of the existence and benefits of open access publishing. This problem is to some extent associated with lack of Internet access previously mentioned. Since most of the open access resources are located

in the World Wide Web, it will require access to the web to be able to appreciate their immense benefit (Chan and Kirsop, 2001). Even, those who have access to the Internet may not necessarily be aware of the existence of the open access technology, while those who are aware of it may have misconceptions of it.

This was evident from a survey carried out at the Faculty of Engineering in the University of West Indies (UWI) in Trinidad. The result showed that, of the 79 staff members who responded to the poll, only 18 (i.e. 23 per cent) were aware of open access journals; just six (i.e. 8 per cent) had knowledge of digital archives/repositories, only two of the staff members had actually published papers in an open access journal, while none had self-archived their papers. Although some of the researchers at the University did come across open access articles while using online search engines, they were unaware of the fact that the free access was made possible due to the open access initiative. They commended search engine such as Yahoo! or Google for the ease of access to such research information. The result further revealed that this lack of awareness, coupled with misconceptions of open access, extends to the University's promotion committee, which on a particular occasion, while considering a lecturer for academic promotion, refused to consider his publication in an open access journal. The reason being that 'he had paid to get his work published'. In fact, the payment was the author's fee usually paid for publications in open access journals (Papin-Ramcharan and Dawe, 2006).

There is also this misconception of open access publications in some conservative developing countries where open access has come to be associated with "vanity publishing". Since open access publications or journals are free (or very cheap), free or cheap has come to be associated with "poor or low quality," while expensive is associated with "high quality". This misconception is a serious impediment to the development, as well as the progress of open access in the developing world.

There is need for a concerted effort to educate scholars and librarians in the developing world about the existence and benefits of open access. There is also a need to tackle the misconception which has



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There is need for a concerted effort to educate scholars and librarians in the developing world about the existence and benefits of open access. There is also a need to tackle the misconception which has



sought to associate open access with vanity publishing. This could be done at regional levels via conferences and workshops. Professional bodies like health and medical associations, library societies, as well as academic communities, could include a session in their annual meetings to educate their members who may not have adequate knowledge of the open access technology.

#### **Potential Threats from Commercial Publishing Houses**

As was stated earlier, the emergence of electronic age of information dissemination resulted in commercial publishing houses moving from the hard copy form of journal distribution to the online digital subscription version with restricted access. The survival of these commercial publishing houses is subsistent on the continued existence of the fee-based subscription model which is being threatened by the open access model. It is doubtful if the commercial publishing houses will allow the foundation of their businesses erode without putting up a hard fight. If there is any threat posed to the open access initiative by the commercial publishing houses, the developing countries stand to lose more if the threat is unchecked.

Though there has not been any direct opposition to the open access movement by the commercial publishing houses, recent development in the industry shows a move which may have some impact on the open access initiative. The current trend in the form of mergers and acquisitions in the commercial publishing industry seems to be a response to the growing trend in the open access movement. According to Miller (2006) "...the rash of corporate acquisitions of smaller publishers and mergers during the 90s transformed the nature of academic publishing, as commercial publishers also took over the journals produced by learned societies, increasing the cost of subscriptions as they did so."

There is no doubt that the continuing growth of open access will have a drastic and long-term effect on the current business model of the big commercial publishing houses (Jeffery, 2006). Whatever obstacles may come from the commercial publishing houses, however, the fact remains that the open access movement has been well organised and unless strategic blunders are committed, the big commercial

publishing houses may not be in a position to halt it (Armbruster, 2005).

#### **Conclusion**

The open access initiative has taken great stride in its effort to provide equal access to knowledge to all people, irrespective of where they live. One of the great beneficiaries of the initiative will be the developing world. However, inadequate research funding to scholars in this part of the world may have a drastic impact on the ability of scholars in developing countries to make a positive impact on open access publishing. In addition, inadequate information communication technology infrastructure in the developing world, as well as a lack of awareness of the open access technology, may also serve as serious obstacles to the realisation of the noble objective of open access in the developing world. Hence, these problems must be addressed if we are to attain the objective of open access which is to make knowledge and information readily and widely available to people, irrespective of where they live.

#### **Recommendations**

Sequel to the foregoing discussion above, the following recommendations would assist in the realisation of the open access initiative in developing countries:

1. Governments in developing countries should be committed to funding research efforts of their scholars and academics. A step in this direction could take the form of increased budgetary allocation to educational and research institutions.
2. Governments in developing countries should endeavour to improve the standard of information and communication technologies in their countries. This is very important considering the fact that the Internet is the back-bone of the open access initiative.
3. Educational and research institutions should assist in payment of author's fees for publications by their scholars in open access journals. It suffices to state that the author is not the only one that benefits from such publication, the institution with which the author is affiliated also benefits.



4. Academic institutions in developing countries should endeavour to establish institutional electronic archives, so that research works from scholars and academics from their institutions could be deposited in such archives.
5. Educational and research institutions, as well as professional bodies should endeavour to spread awareness of open access. Also, they should tackle the misconceptions associated with the initiative. Academic institutions should adopt a policy which recognises open access publications in promotion and tenure evaluation.
6. Organisations and groups in developed countries should assist in funding the research efforts of scholars in developing countries, as well as undertaking the cost of making freely available, research works by scholars and researchers in developed countries. Effort to this effect by HINARI and AGORA is quite commendable and exemplary.

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**Some Open Access Websites**

<<http://libraries.mit.edu/dspace-mit/about/definition.html>>

<<http://www.aginternetwork.org/en/about.php>>

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# Library and Information Science Research in Botswana: An Analysis of Trends and Patterns

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## Abstract

*This paper analysed library and information science research in Botswana that has been published since 1979, when the library school at the University of Botswana was established. The period considered is from 1980 to 2006, a period of 27 years. The paper linked research and publication trends with the historical, social and cultural factors in Botswana. The conclusion is that Botswana has a relatively young history of library and information services, as well as library education; that the research activities have not been informed by a research agenda; and that there has not been significant collaboration between practitioners and academics primarily because for practitioners, research and publication is not viewed as essential to their job progression. Research skills are very crucial for empirical research, and the fact that most research activities have been descriptive may point to some deficiencies in that regard. Other factors that impinge on research have been identified as lack of funding, lack of time, and research that does not necessarily address the issues and challenges of the profession in Botswana. The paper concludes by providing recommendations on what needs to be done to address the current situation.*

## Introduction

Library and information Science (LIS) research in Botswana can reasonably be linked with the establishment of a library school in Botswana in 1979. Prior to that, most research was conducted by students studying abroad in partial fulfilment of their study requirements. Some research activities, however, were conducted by professionals who were working in various libraries and research institutions, but they were sporadic and were mostly documented work related projects and activities. With the establishment of the library school at the University of Botswana in 1979, academics and scholars teaching at the school added significantly to the amount of research that was being produced; students of the school also carried out research for purposes of their studies; and practising librarians also engaged in research for various reasons. Thus, it is safe to say that a lot of research and publications in LIS have been undertaken since 1979. Much as this research activities were being conducted, they were not informed by any particular research agenda, whether in the department or in the local profession itself. In addition, there has been no analysis undertaken to characterise the research activities and determine whether they were informed by developments in the profession in general, as well as the social, cultural and historical conditions in Botswana.

## Botswana: A Historical Overview

When Botswana attained independence from the British in 1966, the country was one of the poorest countries in the world, with limited assets and infrastructure. The reason for the limited



infrastructural development was due to the fact that the British were not really interested in developing Botswana as a colony because it had nothing to offer, but agreed to protect it to pre-empt the further advancement of Germany who had annexed South West Africa (Namibia) and the Dutch in South Africa. It was only when diamonds were discovered that the country was able to provide basic infrastructure for its citizens such as roads, hospitals, schools, etc. In a sense therefore, Botswana's history is characterised by starting from scratch to build infrastructure and train its citizens to be in a position to man the various government departments and agencies. This has impacted on many activities and endeavours, including the development of library and information services, education of library and information sciences, and research in the area.

### Libraries and Information Services

Libraries in Botswana were introduced by colonialists, who were mainly importing services that they had enjoyed in their mother countries. Thus, early libraries were not really targeted at the Botswana population, as much as the expatriate population. Besides, at independence, very few Botswana could read or write. The Botswana National Library Service (BNLS) came into being in 1967, and by 1979, several public libraries were in existence, and efforts were afoot to make library services relevant to the population and the development process. By the 1990s, several special libraries had been established in a variety of institutions such as colleges of education, colleges of nursing, other tertiary institutions, and research-oriented institutions. Many libraries in secondary and tertiary institutions, as well as government departments, were run by the BNLS. Clearly, BNLS had a lot on its hands; it was mandated to provide library services to all in Botswana, as well as ensure that libraries and information centres in schools, colleges and government departments were running smoothly.

### Library and Information Science Education in Botswana

Libraries, for the most part, were staffed by expatriate staff for slightly more than a decade after independence. By the late 1970s, there were only a handful of local overseas trained librarians and

hundreds of untrained library staff who served in paraprofessional positions. The library school at the University of Botswana was thus set up in 1979 to train these paraprofessional staff and bring them up to diploma level. Thus, the school started from humble beginnings training in-service staff and providing certificate and diploma level courses in library science. It is clear therefore that LIS in Botswana started with very few trained professionals to lead and develop a research and publication culture.

By 1990, a degree programme had been introduced, as well as a postgraduate diploma in library and information studies. By 1994, a master's degree programme was introduced which replaced the postgraduate diploma. According to Boadi (2002), the change was brought about by the need to produce information professionals who could be employed in what was perceived as emerging markets fuelled by technology. By 1995, the department had introduced archives and records management and school librarianship programmes. A doctoral programme was introduced in 1999 and an information systems degree programme was introduced in 2002, as well as a masters degree in archives and records management.

### Research Funding

Generally, Botswana has not had a well established system for funding research. Many countries tend to encourage research and development by developing national research strategies and by providing avenues for funding. Such a system is crucial because the presence of funding bodies tend to determine the research strategy and focus. For instance, taking the British example, Ashcroft and McIvor (2000) stated that the Library and Information Commission had influenced the direction and focus of LIS research in the UK. Botswana has not had this in place; up to the present moment, there is no funding body as it is the case in South Africa, the US, and the UK. In general, in the past, most research was motivated by government and international bodies, such as the United Nations, which would commission various research institutions and consultancy firms. University academics, however, have always been funded by the University of Botswana. Unlike countries such as the UK, the US, and South Africa, Botswana has not developed an environment that encouraged research and



innovations through bodies that set the research agenda and also made research funding available. The point being made here is that historically, there has been no formal structure aimed at encouraging and funding research in all fields of study. A Ministry of Communication, Science and Technology was only established in 2002 and has been tasked with establishing a research funding agency; the agency is still not in place, although plans to set it up are at an advanced stage.

### Literature Review

Elkin (1999), quoted by McNicol and Nankivell (2002) defines research as original investigation aimed at gaining knowledge and understanding. He states that it should be relevant to the needs of commerce and industry, as well as to the public and voluntary sectors. Mchombu (2002) further opines that research should be social development oriented, especially in developing countries, in order to be a catalyst in the development process. Research can be basic, applied and operational. McNicol and Nankivell (2002) state that: "Research in the LIS domain varies tremendously in scale and orientation; for example it may be local, regional, national or international and have a practical or academic focus." For research to be useful, it has to address problematic areas either in the profession or in the overall development process. Library and information science researchers should not be operating in a vacuum, or researching on issues that do not impact issues of social relevance.

A number of writers have reviewed the nature and trends in LIS research in Africa (Aina, 1991; Alemna and Badu, 1994; Aina, 1996). Aina (1991) studied the research directions of information professionals in Africa, covering the period 1985 to 1989. The study analysed papers published by African LIS professionals in three journals: *LIBRI*, *International Library Review* and *Information Development*. The findings revealed that 71 out of the 87 papers were based on descriptive studies, whereas only 13 were empirical studies. Alemna and Badu (1994) found a similar trend when they analysed LIS research in the same set of journals for the period 1990 to 1992, where they found that 56 out of 72 studies were descriptive in nature. Both studies established that the majority of papers that were published were written by academic library staff,

followed by library school staff, special libraries, and lastly, national and public library staff. Aina (1991) established that the major areas in which papers were published covered library resources, archives, library education, bibliometrics, library automation and agricultural information. Aina (1996) later identified the predominant areas researched on and published in Southern Africa to be education and training, agricultural information, information technology, and archives and records management.

### Methodology

For purposes of this paper, LIS research includes all papers that have been published by LIS researchers in Botswana in various journals as indexed by Library and Information Science Abstracts (LISA). LISA was chosen because it is the most comprehensive indexing and abstracting database in library and information science. LIS researchers include LIS practitioners and academics that teach and research in LIS. Thus, this paper reports an analysis of research undertaken in Botswana from 1980 to present. The analysis considers the social, cultural and historical conditions in Botswana, and attempts to identify the link between these factors and the state of LIS research in Botswana.

A search was conducted on the Library and Information Science Abstracts (LISA) database for items written on Botswana, developing countries and Africa. From the results, all those that were written by people who had been resident in Botswana at some point were isolated. Given the very small population of Botswana, and the fact that LIS professionals of the past and present are well known to the researcher, it was not a difficult task to isolate papers written by LIS researchers and practitioners in Botswana over time. The search results were considered over three periods of 1980 to 1990; 1991 to 2000; and 2001 to 2006. The analysis covered the following: topics covered in the three periods; who was publishing; the types of research published; and finally, the journals that were mostly utilised for publication of results. An attempt was made to explain the above trends based on the historical, social and cultural issues at play in Botswana during the three periods under study. An attempt was also made to show how research in Botswana could have been influenced by trends in library and information science



in general or the situation of Botswana in relation to the development of LIS in the country.

The researcher also sought to understand what factors were at play that influenced the research conducted by posing questions electronically to a group of LIS academics and practitioners selected as a convenience sample. This method is not unusual since studies have sought to understand trends by identifying opinion leaders in a field to augment findings of surveys, etc. As such, a few individuals were asked to identify the factors that contributed to the research trends in LIS since 1980 up to 2006. The individuals who responded include three academics in the Department of Library and information Studies, University of Botswana (UB); two librarians from the UB library; and two from the Botswana National Library Services (BNLS).

## Findings

The Library and Information Science Abstracts (LISA) database was searched to identify research and publications concerning library and information science in Botswana. In total, 285 papers were published in the 27-year period covered in this paper. The period 1980 to 1990 had a total of 41 papers published; 1991 to 2000 had 159 papers; and 2001-2006 had 85 papers.

## Research Areas

According to table 1, a total of 41 papers were published in various journals during the period 1980 to 1990. Areas of the discipline that were being researched included library education and the direction it should take, and most of these papers

Table 1: Research Areas Published from 1980 to 2005

Subject	Frequency			
	1980-1990	1991-2000	2000- 2006	Total
Library Automation/ICT	-	25	32	57
Library Education	11	24	5	40
Library Operations	4	11	11	26
Library and Development	-	23	-	23
Archives and Records Management	1	11	5	17
Information Seeking and Needs	-	11	5	16
Management and Planning	5	-	7	12
Publishing	5	1	5	11
Grey Literature	-	9	-	9
Agricultural Information	-	9	-	9
School Libraries	-	8	-	8
Tracer Studies	-	7	-	7
Bibliometrics	-	6	-	6
Special Libraries	5	-	-	5
Human Resources	-	5	-	5
Bibliographic Studies	3	1	-	4
Gender and Information	-	4	-	4
Library Association	1	-	3	4
Infopreneurship	-	2	-	2
Conference Report	-	2	-	2
Information Literacy	-	-	2	2
Indigenous Knowledge	-	-	2	2
*Others	6	-	8	14
TOTAL	41	159	85	285

\* Areas in which only one paper was contributed.



were written by academics in the newly established Department of Library and Information Studies at the University of Botswana. A number of papers also documented various aspects of library work, and also were typically written by practising librarians, most of whom were in the University Library, and a few other librarians.

The fact that there were significant numbers of papers that covered library education is logical, given the fact that it had begun in Botswana in 1979. Many of the papers were descriptions of the LIS programme at the University, as well as general descriptions of library education in Africa. Other areas included library management and planning, again mostly written by librarians at University of Botswana library. There were a number of papers that covered special libraries and library operations such as library cooperation and interlibrary lending. Bibliographic studies were also covered.

During 1991-2000, research areas increased significantly, as did the amount of research itself. The increase in the number of publications was due to the fact that at this stage in the history of Botswana and in the LIS history of the country, there were more libraries, as well as more trained LIS professionals, both expatriate and local, who were researching and writing. The Government and the University of Botswana were aggressively training professional librarians and academics who could teach in the library school. There was significant publication in library education, and this was in line with developments in the library school which was experiencing growth and had been in existence for at least a decade. Other programmes were introduced such as school librarianship and archives and records management. New programmes such as the postgraduate diploma in LIS, Masters in LIS and PhD were introduced during this time. New staff members in the area of archives and records management, school librarianship, and agricultural information were recruited; and thus they contributed to the research and publication in these areas, hence, the upsurge of

papers in these three areas. As such, a significant amount of LIS research and publication was carried out to the extent that a total of 159 publications on LIS issues in Botswana were published in varied journals.

Areas that featured prominently in the publication record of 1991 to 2000 included library automation and general accounts of various library activities and projects. Library automation and ICT issues were crucial at the time because the University of Botswana Library was transforming itself into an automated environment, and many of the papers that were published addressed the process and progress of the automation exercise. Equally, there were significant numbers of publications that documented library activities, as well as general papers on librarianship in Botswana and Africa and its role in development.

Between 2001 and 2006, 85 papers were published. For the first time, there were papers that are not so much centred on libraries and information centres, but which looked in a general way at information management issues of the information society and how it is affected by the north-south digital divide, and what steps the Botswana government is taking to ensure that Botswana partakes and is a part of the information society. Issues of library management, information seeking, information needs are still of interest, although they have declined considerably compared to ICT issues.

### Researchers and Type of Research

According to table 2, from 1980 to 1990, no empirical paper was published by any of the four groups of information professionals. Of the 41 papers that were published, 7 were reports of conferences or other meetings typically written by practitioners. Many of the papers (18) were published by the University of Botswana Library staff and were focused largely on documenting different aspects of library work such as library management, library services, library cooperation, interlibrary loans, etc.



**Table 2: Distribution of Researchers and Type of Research, 1980-1990**

Researchers	Frequency	Type of Research	Frequency
DLIS Academic Staff	11	Empirical	0
		Descriptive/analytic	11
UB Library Staff	18	Empirical	0
		Descriptive/analytic	18
BNLS Staff	4	Empirical	0
		Descriptive/analytic	4
Other Library Professionals	8	Empirical	0
		Descriptive/analytic	8
TOTALS	41		41

The fact that there were no empirical studies that were reported is logical, given the fact that there were very few information professionals at that stage, and that there would have been limited time available to dedicate to empirical research as libraries, information centres and the library school were basically being set up. However according to table 3, the period 1991 to 2000 saw an increase in the

in nature. Although the number of descriptive studies was still large, one can see an increase nevertheless in empirical based research from the 0 between 1980 and 1990 to 27 between 1991 and 2000.

At this time too, University of Botswana librarians were publishing considerably. This was largely due to the fact that they were required to research and publish; publications were used as a

**Table 3: Distribution of Researchers and Type of Research, 1991-2000**

Who was publishing	Numbers	Type of research	Frequency
DLIS Academic Staff	87	Empirical	27
		Descriptive/analytic	60
UB Library Staff	53	Empirical	10
		Descriptive/analytic	43
BNLS Staff	9	Empirical	0
		Descriptive/analytic	9
Other Library Professionals	10	Empirical	3
		Descriptive/analytic	7
TOTALS	159		159

research and papers published by DLIS academic staff who published a total of 87 papers out of the 159 that were published. Out of these 87, 27 were a result of empirical research and 60 were descriptive

measure of their performance together with service to the university, professionally, and in the community. Altogether, UB library staff published a total of 53 publications; many of the studies were descriptive.

**Table 4: Distribution of Researchers and Type of Research, 2001-2006**

Who was publishing	Numbers	Type of research	Numbers
DLIS Academic Staff	55	Empirical	20
		Descriptive/analytic	35
UB Library Staff	23	Empirical	8
		Descriptive/analytic	15
BNLS Staff	4	Empirical	0
		Descriptive/analytic	4
Other Library Professionals	3	Empirical	3
		Descriptive/analytic	0
TOTALS	85		85



Table 4 shows that in the period 2001 to 2006, more empirical research papers were published. DLIS staff published a total of 20 out of 55 papers. Many of the papers were based on research conducted by masters and PhD students, as well as research by academic staff. A total of 23 papers were published by UB library staff and 8 of them were reports of empirical studies, some of which were carried out by the staff, while they were in graduate education in Botswana or abroad. Even, given the fact that this period is only 6 years compared to 10 of the other two, it is clear that publication by BNLS staff has declined to 4, with no empirical research being reported.

### Publication Channels

Publication of research at the beginning in the period 1980 to 1990 was generally limited to non-peer reviewed journals such as the Botswana Library Association Journal. Overall, only 7 papers were published in peer reviewed journals. The situation improved over the years, and papers were increasingly published in peer reviewed journals. Again, this is a function of more LIS academics publishing and the requirement that they publish in peer reviewed journals. During the 1980-1990 period, 24 were published in the *Botswana Library Association (BLA) Journal*; 3 in *Information Development*; another 3 as conference reports; and 3 more in the *Quarterly Bulletin of International Association of Agricultural Information*. At this time, one realises that the BLA Journal published the most papers as a new journal of the newly established Botswana Library Association. Researchers were encouraged to write for the Journal at a time that BLA itself was gathering momentum. Subsequently one does not see any reference to publications in the BLA journal, and one can only surmise that LISA stopped indexing it, or its publication became sporadic, and it lost its earlier impetus, the sad story of many journals in Africa. During the decade 1991-2000, the researchers began to expand their publication horizons by choosing a variety of journals, with papers published in a total of 45 journals. Twenty-two (22) papers were published in conference proceedings; 17 papers in the *African Journal of Library, Archives and Information Science (AJLAIS)*; 14 papers in *Information*

*Development*; 13 papers each in *Libri* and *International Information and Library Review*; 12 papers in *Library Management*; 8 papers in *Library Review* and *African Research and Documentation*; and finally 5 in *South African Archives Journal*. The rest were spread in the remaining 38 journals. An observation to make is that apart from conference proceedings, the *AJLAIS* began to attract papers from researchers in Botswana, because it had become the premier journal for LIS research in Africa. Researchers also began to publish in international journals. In a space of five years (2001-2006), 85 papers were published in 35 journals, with *AJLAIS* taking the lead with 13 papers; *Information Development* published 9 papers; *Library Management*; 7 papers and 5 papers each for *Electronic Library*, *Library Review*, *Malaysian Journal of Library Science*, and *South African Journal of Library and Information Science*. *AJLAIS* has remained the journal of choice, as it was during 1991 to 2000 period.

### Factors Affecting the LIS Researchers in Botswana

Questions on the historical, cultural and social factors that affect the LIS researchers in Botswana were sent to LIS professionals at the University of Botswana Library School, the UB library senior staff, and to some staff of the BNLS. The factors highlighted by these colleagues are outlined below.

#### Absence of a LIS Research Agenda

An issue that was brought up was the lack of a research agenda that would guide the focus of research within the country. This means that, in general, researchers in the LIS field are researching for their own purposes and on their own interest, and there are no general research areas that have been identified as being important enough to warrant special treatment by all. Another issue was the fact that if research findings are to be implemented, the research itself must address current issues and challenges. Indeed, as stated by Mchombu (2002), LIS research in Botswana, as in Africa, has failed to address social issues, and this has worked against strengthening information science in the country and has contributed to its poor image. The fact that there has been no study into the LIS landscape in Botswana



and the issues and challenges therein means that research is largely undirected and uncoordinated. It has been posited that there is a need for an empirical study that will highlight the LIS research landscape in Botswana and identify the areas that need to be paid attention to. This would not only identify the research output in Botswana, but would also show how this output is disseminated to other LIS practitioners in Botswana.

### Research Skills

Historically, higher education curricula in countries such as Botswana focused on generating manpower for the new independent states, and research was not given that much emphasis. For example, the emphasis on training at a higher level was to produce educated workers rather than to develop scholars.

Although students at the library school are taught research methods, these are offered in order to equip the students to write dissertations or term papers, and not for applied research which is what practitioners would need to be engaged in. Indeed, the feeling is that practitioners feel they do not have adequate research skills, and most of them only do research when they are on study leave where they find themselves bound to undertake research for the award of the programme they are studying. After study, and going back to work environments that do not encourage research, the acquired skills are soon forgotten. Indeed, the fact that much of the LIS research in Botswana is descriptive rather than empirical would beg the question whether students of LIS are trained to be able to conceptualise and undertake this type of research; and whether students are trained to the extent that they are able to conceptualise research studies that arise from their work and its impact to others and the development process. Another question is whether research is seen as an integral part of carrying out LIS work, either as a practitioner or as an academic?

### Work Environment Conduciveness to Research Activities

Practitioners have stated that in most cases, their work environment does not encourage or require research; and therefore, if they conduct research, it must be in their own time and not as part of their work. For example, staff at BNLS are not required

to research or publish, and their upward movement in the organisation is not determined by this. Indeed, BNLS staff members have not had significant research output in the past 27 years, although there were a few staff members who did research and write. A point made was that the younger professionals have realised that publishing does not necessarily advance them in the organisation, and hence publication from BNLS has declined over the years. Another factor mentioned was that the recommendations that have emanated from studies on BNLS are hardly implemented – and this may suggest a dissemination issue, or the fact that the research conducted is not taken seriously since it is carried out by students.

For a long time, library practitioners in the UB Library were expected to research and publish in the same way that their teaching colleagues were doing. Indeed, LIS is a field that constantly changes and requires one to keep abreast through research. However, the restructuring of UB library service in 2000 which saw them viewed as support staff has to a large extent contributed to the reduction in research and publication from library staff.

### Availability of Time to Conduct Research

The fourth concern relates to lack of time to conduct research. LIS professionals appear not to have the time to undertake empirical research, and this is borne out by the number of empirical research papers published. For instance, the academics at DLIS are faced with growing numbers of courses and students to teach. Their primary concern will be to teach in such instances and research will be relegated to second even third position. Even practitioners are faced with a similar situation. They have to attend to the needs of their clients and think of research as something which can be done where time permits. Another factor contributing to the lack of time among practitioners at BNLS is that the service is relatively young, and is grappling with ensuring that library services are available for everyone in the country. Secondly, there is a lack of a critical mass of staff to ensure that this goal is attained. As such, therefore, staff members are literally overwhelmed and can hardly find time to conduct research.

Although practitioners in UB library qualify for sabbatical leave which would enable them to conduct



research, many of them do not take it; and therefore, because the work in the library is intensive, they do not find the time to conduct research, unless it is at their own private time. The 2000 restructuring of UB library staff which resulted in a change of status from academic to support staff may also have contributed to staff members' decreasing research output from 2001 to date.

#### **Availability of Research Funding**

Generally, in Africa, a very small number of governments sponsor or fund LIS research. In Botswana, LIS research is supported by the University of Botswana for university staff members, but it is not given special attention as it is funded in the same way and with the same conditions as other types of research. For library practitioners in BNLS and other libraries outside the university system, research funding and time off to conduct such research is not easily forthcoming. To conduct research, especially empirical research in a country as spread out as Botswana, it is imperative that financial support is provided. However, all is not lost, as Botswana students in universities are given limited research funds for their dissertation and thesis work.

#### **Lack of Collaborative Climate**

One colleague observed that it seems as though there is no real focus on collaborative research; that many colleagues seem to be doing their own research without involving others to solve or understand the issues of the profession in Botswana. Furthermore, collaboration among government, industry and academia would go a long way towards fostering LIS research environment. However, there is no such avenue, and researchers largely conduct research that is of their own interests and may not be very useful to other partners such as industry and government. It is also quite evident that until recently in Botswana, there was no inkling that researchers could commercialise their findings, and it is only recently that the university has been talking about government, industry and academia collaboration, with a view to producing goods and services from research.

#### **Research Unfriendly Environment**

An issue that impacts on research in Botswana is identified as an environment that is not research or researcher friendly. This has been linked with the fact that Botswana has a small research market in that the same people are repeatedly asked to participate in research as respondents resulting in their being over researched, and therefore unwilling to give their time to researchers. Additionally, researchers cannot conduct research without a research permit. The application for a research permit is a long bureaucratic process, and it can take a considerable amount of time for researchers to be granted permission and to be given the requisite documentation that will open doors. Without the documentation, no one will allow researchers access to people or the research site.

#### **Lack of a Strong Library Association**

Although the library association in Botswana is still alive, it has lost its strength and ability to influence developments in the LIS field and LIS research areas. The reasons for this are that membership has dwindled, and for a long time was restricted to the same individuals who were inevitably elected to office only to find that support from members was somewhat not forthcoming. The BLA was particularly strong and alive in the 1980s, but went into decline in the 1990s, when most of the pioneers of BLA took a backseat to encourage younger members to take over leadership. In addition, the flagship publication of the BLA where many LIS researchers published and cut their teeth was reduced to a newsletter, due to people's reluctance to publish in a non-refereed journal and also to its infrequent publication.

#### **Discussion**

McNicol and Nankivell (2002) identified a number of problems besetting LIS researchers in the UK, which, in my view, also apply to the Botswana situation:

- Nature of LIS education;
- Lack of skills and knowledge for conducting research;



- Lack of a research agenda that is directed to current problems;
- Lack of employer incentive and interest in research;
- Limited practitioner involvement in research;
- Research practice gap;
- Research that does not address issues that are problematic to the profession;
- Research is disseminated to journals that others cannot get access to; and
- Student dissertations are not disseminated adequately most of the time, and yet are empirical in nature.

The fact that LIS education is relatively young, when compared with other countries in the region, has contributed to the trends in research and publication. Although the library school started in 1979, there were no local LIS academics, and an aggressive training strategy was adopted to the extent that local staff members with PhDs have increased from zero to seven with four more in the pipeline. Comparatively speaking, in Botswana, there are fewer LIS scholars and practitioners than in other countries. A critical mass of researchers is required if LIS research in Botswana is to flourish, and at the moment, it is not there.

Considering the trends in research and publication by LIS academics and practitioners in Botswana, one notes that the relatively young history of both library and information services and library education has had some impact on the research and publication of LIS researchers. This is especially noticeable in the early years from 1979 to 1990, when research did not seem to be paramount and the publication avenues were limited to the *Botswana Library Association Journal* and a few other journals. The fact that research and publication seemed to be concentrated at the UB Department of Library and Information Studies and UB library could be explained by the fact that up to 2000, both groups were required to research and publish. It was only after restructuring of UB library and their conversion to support staff status that research became a choice rather than an expectation. Indeed, the period 2001 to 2006 had academic LIS personnel significantly researching and publishing more than UB library practitioners, a situation that is different from the 1991 to 2000 period.

LIS research in Botswana has focused on library automation, technology for LIS and the information society, library management, but has not researched in areas that would enable it to grow. Moahi (2002) identified some areas in the area of ICT that LIS researchers should be focusing on, and these include digital libraries, impact of ICT on development of the information society, information needs, seeking and retrieval, issues of content on the Internet, ICT and development, to mention a few. Considering international research trends in areas such as digital libraries, information retrieval systems, etc., Botswana has not really delved into these areas, nor has it tackled areas that would build the field by contributing to national endeavours, hence increasing the visibility of the profession. This state of affairs is largely due to a lack of research direction spearheaded by both academics and practitioners.

Botswana LIS research has been descriptive rather than empirical. This has been an issue identified by a number of researchers who studied the trends and patterns of LIS research in Africa. Aina (1991) and Alemna and Badu (1994) studied LIS research in different periods and found that there was a preponderance of descriptive studies as opposed to empirical based studies. This issue as stated elsewhere in this paper poses the question of research skills. Although over the years the situation has improved, there is still a preponderance of descriptive studies. There is a need to understand to what extent LIS students are provided with research skills, and whether these are sufficient to make researchers out of them. Indeed, it is felt that the research skills imparted during training are not sufficient and should not only be taught as a course preparing students for their dissertations, but should also be incorporated in all courses.

This study has revealed a reduction in publication by practising LIS professionals, especially those in the national library service. Aina (1991) and Alemna and Badu (1994) also found a similar trend in that professionals in the national and public library services tended to publish less than their counterparts in academic libraries, library schools and special libraries. It has been pointed out that generally, there is a lack of incentive and interest in conducting research among practitioners. This is due to the fact that employers do not encourage research nor provide a conducive environment in which it will



thrive. Where research is seen as distinct from the normal everyday work of practitioners, there is no way that they will conduct research, because then it has to be done in their own time.

The lack of funding for research activities is a big factor impacting on LIS research. Research funding targeting LIS research is not available. To conduct empirical research requires time and money; without these, individuals are going to be content with writing papers based on what they have experienced or read or thought. Certainly, this has been the case in Botswana.

The participation of practitioners in research activities has somewhat declined, which is unfortunate because practitioners need to conduct research and provide information on their activities. This research may then be used by other practitioners who are faced with the same issues or may cumulatively show the state of LIS in the country.

Furthermore, it would seem that research conducted over the years has not really addressed any specific problem area; and thus, there would seem to be research for the sake of research and not much else. Research carried out by academics also does not seem to address issues faced by practitioners.

It is clear that a lot of research findings are not disseminated in fora where they will be discussed and possibly taken on board by employers. Much of the research of students at DLIS is hardly ever publicised or disseminated as publications. When researchers publish, they elect to publish in international journals, which for the most part, are not subscribed to by many libraries, including the university library.

## Conclusion and Recommendations

Clearly, LIS research in Botswana is impacted by historical, social and cultural factors, and this paper has shown how. There is a need to ensure that research coming out is relevant, so that it can feed into the entire LIS system in Botswana and also contribute to making Botswana an information society. This can be done if a number of basic things are put in place, such as the following:

1. LIS educators need to ensure that students who graduate appreciate the fact that librarianship is

greatly impacted by technology and other forces, and therefore changes all the time, necessitating continuous research to be able to understand and apply new developments.

2. LIS students should be equipped with adequate research methods, so that they are in a better position to conduct research in an effort to provide better service and solve any problems.
3. Practitioners should be encouraged to write about what they do and its impact.
4. Individuals in leadership positions must be sensitised about the importance of research in LIS work and the need to create an environment that is conducive to research.
5. The BLA must be supported by all to develop into a body that will increase the visibility of the profession and will set the tone for research and education issues.
6. There is a need to conduct a LIS research landscape study that hopefully will identify the research areas where concerted effort must be expended.
7. Collaborative research between academics as well as academics and practitioners must be encouraged.
8. Botswana is a small country, and it should be possible to hold seminars where research can be disseminated to various stakeholders.

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# Factors Affecting the Career Choice of Undergraduates in Nigerian Library and Information Science Schools

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## Abstract

*It has been observed that not many undergraduates of Nigerian universities apply to study library and information science (LIS) in the first instance but as a last resort. This situation is unwholesome for the future of LIS profession in Nigeria. The objective of this study, therefore, was to investigate the low preference for library and information science as a first-choice course of study by the undergraduates of Nigerian library schools. The survey research design was adopted, with the Career Choice Influence Questionnaire, as the main data collection instrument. In all, 1,228 students from eight Nigerian university library schools participated in the study. The study revealed that majority of the students did not make LIS course their first choice, but ended up in the library school as a last resort. However, 38.4% who chose the course were influenced mostly by previous library work experience. Available sources of information on the course include parents/relations (29.9%) and peers (9.20%).*

*There are slightly more male LIS students (50.3%) than females (49.7%), indicating its equal popularity among both sexes. That 46.9% of them were in the 22-26 age bracket showed that the younger undergraduates constitute the majority. The study concludes that despite the evidence of improved popularity of the programme among the respondents, it remains largely unpopular among prospective undergraduates in Nigeria, when compared with such other courses as accountancy, medicine and law. The paper recommends that public awareness about the profession and the programme be intensified by all stakeholders if it must attract some of the best brains in the country who can meet the challenges of the profession in Nigeria.*

## Introduction

Generally, researchers have investigated issues relating to aspects of career choice by teenagers (Breakwell, et al., 1988; Dick and Rallis, 1991; Jawitz, et al. 2000; Woolnough, 1994). Southwick (2000), for example, observes the trend toward a decline in graduate enrolments in health-related fields, as well as science and engineering, having recorded enrolment decline from 1993–1997, after four decades of annual increases. A continuing decline of admissions in these areas may lead to a shortage of skilled health and science workers and this could ultimately hurt the society. Palmer (2005) also observes the reduction in the numbers and calibre of students seeking admissions into engineering education in Australia. Poor image of the engineering profession generally and the poor understanding of engineering in schools were identified as contributing reasons for this situation.



In Nigeria, many youths make wrong career choices due to ignorance, inexperience, peer pressure, advice from friends, parents and teachers, or as a result of the prestige attached to certain jobs without adequate vocational guidance and career counselling (Salami, 1999). Consequently, many of them are unsuited for their careers, as they usually find themselves in jobs that do not satisfy their value needs. When this occurs, they constitute nuisance to themselves and their employers. They are usually unable to contribute meaningfully to the society, and they ultimately become liability to the nation.

A survey of the career choice of MLS students at both the Ibadan and Zaria library schools by Bello (1991) focussed on the 1989-91 sets, with an enrolment capacity of 115 students from both library schools. Some of its outcomes are that median age bracket of the students falls within the age range 26-30 years, and are predominantly males, are already having work experiences; majority of whom have first-degree background in Arts, Education and Social Sciences. Similarly, Alemna (1991), in a survey of the careers and characteristics of past post-graduate diploma students of the Department of Library and Archival Studies, University of Ghana, Legon, covering 1981/82 to 1987/88, examined such variables as sex, choice of career, pre-career jobs, job mobility, job satisfaction, and the relevance of the course contents to their present employment. Findings on the choice of librarianship as a career revealed that most respondents had previous work experience especially in teaching with only a few having worked in the library before enrolment. The respondents' choice was predicated on opportunity for intellectual development and for continuing formal education, and that graduates showed a liking for books; job security, advice from a librarian, good salary and attractive working environment, in that order. Kisiedu (1993) surveyed past post-graduate diploma students of the same department for the period 1970/71 to 1980/81 and found that most Ghanaian librarians first considered librarianship as a career after but not during their secondary education.

### Literature Review

Sax (1994) examines students' initial interest in scientific careers, factors influencing career choice during college, and how these factors differ between

men and women. Men who abandon career aspirations appear to be driven by financial concerns, whereas women who decide not to pursue scientific career appear more concerned with the social good of their career choice. Ferry (2006) asserts that adolescent occupational choice is influenced by many factors, including life context, personal aptitudes, and educational attainment. He contends further that whether college-bound or work-bound, meeting the challenge of this developmental milestone is critical in adolescents' lives.

Students all over the world are usually faced with the task of career decision making. The choice of careers, subjects, and courses of study in schools and of subsequent paths to follow is always difficult problems facing prospective undergraduates. Often, choosing the right subject combination leading to the right profession can make the difference between enjoying and detesting the career in future. Dedicating oneself to career choices that are unattainable leads to frustration. Each individual undertaking the process is influenced by many factors, including the context in which they live, their personal aptitudes, and educational attainment (Bandura, et al. 2001).

However, despite the fact that much has been written about the individual variables affecting career aspirations and of the relationships among them, a survey of the literature, however, revealed that very little empirical studies on this subject exist, especially regarding Nigerian library and information science school students. This study, therefore, serves to fill the gap in this aspect of the literature.

### The Current Challenges in the Library and Information Science Profession

The changes affecting LIS, especially in recent times, have been phenomenal. Some of these are the expanding frontiers of knowledge, the improvement in and application of modern technology and the increased awareness and complexity in demand for information by the society the library exists to serve (Kargbo, 1999). The contemporary scenario predominated by information and knowledge perspectives indicates the pressing need to educate and train the library and information manpower towards a sustainable professional competence. Thus, librarians in the electronic age need to be equipped with necessary skills and competence to



satisfy the high level, complex and ever-growing multifarious information needs of users. Present and future librarians are expected to explore and exploit the use of information and communication technologies (ICT) for modern library practice. Only then would they be able to have greater access to a rich and diverse range of electronic library resources that are presently dominating the world of information storage, processing, retrieval and dissemination. Kigongo-Bukenya (1999) aptly summarises these requirements by asserting that library and information professionals are required to be "contingent", that is their orientation, skills and techniques, must be "the best fit" to measure up to the ever-changing information society needs. Thus, library and information science courses must review its philosophy and content continuously, so as to respond to the changing realities of the workplace and to the changing roles and expectations of the information professional.

Burke and Peter (1992) argue, however, that it is "clear that students come to the courses with, sometimes, vague expectations, often based on outdated ideas of what the library profession involves, or with a fixed intention to follow down a specific road".

Informal contacts by the authors with new entrants into some Nigerian library schools showed that many of them would have preferred other courses of study to library and information science. It seems also that many fresh students in these schools offered to study the course only after being rejected by the department of first choice, owing to low scores obtained at the University Matriculation Examination (UME).

It is on record, for instance, that the Department of Library, Archival and Information Studies, University of Ibadan had only 29 candidates who chose the course originally in the 2002/2003 academic session. Out of this, only 19 candidates, who scored above cut-off marks, were on the first admission list of 56 candidates. This means that many of the admitted students came from supplementary lists, consisting of candidates who, perhaps, could not meet up with the UME score requirements of their preferred courses. Discussion with some lecturers in other library schools showed that this trend pervades the schools. In fact, some of the students

often expressed readiness to defect, if possible to other professions on completing their programme in library and information studies.

Agumanu (1989) surveyed the second, third and fourth year students of the Imo State University library school with a view to identifying factors that influenced their choice of the courses and found that it was not a typical first choice for these students as 80% respondents had the initial choice of Law. The study by Akussah, Tackie and Tiarniyu (1999) examined the entry-level perceptions and motivations of sub-degree diploma and postgraduate degree students of the Department of Library and Archival Studies, University of Ghana, and found that archives diploma students are more confident of their programmes, profession and careers than their librarianship counterparts. Besides, young and diploma students were less committed to careers in their chosen professions than older and M.A. students hoping to use the diploma qualification to further their education in other subjects, if necessary.

Tiarniyu, Akussah and Tackie (1999) followed up with another study on changes in the entry-level perceptions and motivations of sub-degree diploma and post-graduate degree students after one year training at the same Department. Students' perceptions at the start of their programmes were compared to those given a year after. This revealed that both archives and library studies students improved their perceptions of the library professions and careers significantly. Librarianship students improved from an initially lower perception of their professions and careers compared to what archives students had of theirs. Archives students improved their perceptions most probably because they had attended the joint courses of the parallel archives and library programmes of the Department which probably enabled them to increase their awareness of the essence and importance of the librarianship profession and careers relative to theirs.

### Research Problem

From the literature review, it is obvious that only a few undergraduate students in Nigeria usually apply to study library and information science as a first choice course. Many of those who are eventually admitted into the library schools came on account of their failure to secure admission to other preferred



departments. This development tends to turn library schools in Nigeria into dumping ground for candidates who could not be admitted to study their preferred courses. That the majority of prospective undergraduates chose to study this course only as a last resort is undesirable for the future of a profession as dynamic as LIS.

This study, therefore, investigated the factors affecting the career choice of undergraduates of Nigerian library schools. The motivating questions were: Why is library and information science not a popular course among the prospective students? Why do only a few applicants make LIS their first choice when applying to universities? What informed their preferences?

The main objectives of this study were to find out the subject background of trainees in library and information science schools in Nigeria, the reasons for choosing library and information science, and the sources of information used in choosing library and information science.

## Methodology

The study adopted the survey research design targeting thousands of undergraduates spread across several university-based library schools in Nigeria. At the time of this study in 2004, there were 15 library schools. However, a preliminary survey revealed that some library schools existed only as appendages of other independent departments under which they operate, such that only a few courses on LIS were offered as cognate or minor. Others were either of a complete departure from the conventional LIS programme or the enrolment number was too low to

meet the requirement of this research. In these categories are Awka, Ekpoma, Enugu, Uyo, Babcock and Madonna. The Minna library school was only in its third year, and, therefore was used for the pilot study. Eight library schools located in Ibadan, Zaria, Kano, Maiduguri, Nsukka, Uturu, Abraka and Owerri were used for the study. The eight schools had a student population of 3067 at the time of the study.

From the study population of 3067, a sample size of 1,240 (40.3%) was drawn, using the stratified proportional random sampling technique to ensure equitable representation and reduce bias. Each library school was stratified into four levels of 100, 200, 300 and 400 and 40% of the population at each level was drawn as the sample size. Table 1 shows the distribution of the study and sample populations.

Thus, 1240 respondents were drawn as sample from the study population (3067) to ensure that the study sample cuts across the old and new generations of library schools. In each level, 40% of the population was selected as sample, making for both consistency and uniformity in the sample sizes drawn from across the selected library schools. It is also indicative of the proportional stratified sampling technique employed in determining the sample for the study. This is representative, as it constitutes 40% of the study population. The sample size is therefore considered adequate for the study. Data for the study were collected from primary and secondary sources. The Career Choice Influence Questionnaire (CCIQ), as well as participant observation and verification of the students' entry records, served as instruments for data collection. Descriptive statistical techniques like tables of frequency counts and percentages were employed in the analysis.

**Table: 1 Study Population and Sample**

S/N.	Library School	Study Population	Study Sample
1.	Abia State University, Uturu	353	142
2.	Ahmadu Bello University, Zaria	308	125
3.	Bayero University, Kano	744	302
4.	Delta State University, Abraka	381	154
5.	Imo State University, Owerri	459	185
6.	University of Ibadan, Ibadan	189	76
7.	University of Maiduguri	433	176
8.	University of Nigeria, Nsukka	200	80
	Total	3,067	1,240



## Findings and Discussions of the Results

Out of the 1240 copies of the questionnaire administered, 1228 (99.03%) were completed, returned and found useable for the analysis. The total number of respondents was 1228, comprising of 618 (50.33%) male and 610 (49.67%) female. This shows that LIS profession can no longer be considered a female-dominated profession. The breakdown of

**Table 2. Respondents' GCE/Ordinary Level/NECO Subject Background**

S/N.	Subject Background	Respondents	%
1.	Commercial	98	7.98
2.	Science	280	22.80
3.	Social Science	402	32.74
4.	Arts	448	36.48
	Total	1228	100

their age brackets indicates that the majority were in the 22-26 years bracket, which has a total figure of 576 (46.91%).

**Table 3: First Choice Programmes of Respondents**

S/N	Programmes	Respondents	%
1.	Medicine	5	0.41
2.	Pharmacy	9	0.73
3.	Engineering	26	2.12
4.	Education	28	2.27
5.	Arts/Humanities	152	12.38
6.	Sciences	176	14.33
7.	Social Sciences	360	29.32
8.	Library and Information Science	472	38.44
	Total	1228	100

Looking at the secondary school subject background of respondents, table 2 shows that Arts had the highest rate of 36.48%, followed by Social

Science (32.74%), Science (22.80%) and Commercial (7.98%). Although, more respondents had Arts and Social Science backgrounds and fewer had Science and Commercial subject backgrounds, the diverse range of subject backgrounds of respondents shown in table 2 allows for a unique learning environment, a demonstration of the multi-disciplinary nature of the course.

The results in table 3 indicate that a significant proportion (38.44%) of the respondents made library and information science their first choice. This was mainly influenced by previous library work experience, and, expectations, therefore, thus expecting prospects of career progression. This was followed by Social Sciences (29.32%), Sciences (14.33%), Arts and Humanities (12.38%), Education (2.27%), Engineering (2.12%), followed by Pharmacy (0.73%) and Medicine (0.41%) in that order. These showed a wide range of first choice courses, which, when grouped into library and information science and others revealed a higher first choice preference for courses other than library and information science.

Table 4 reveals that those who made LIS a first choice course had a variety of reasons for doing so, but were also mostly influenced by previous library work experience. It is noteworthy that only 9.96% made their choice on account of 'high social status and respect'. This is highly indicative of the low popularity level of the course in Nigeria. Interestingly, good pay was not prominent among the influencing factors. This is in contrast with the findings of Ahmed et. al (1997) that "students who intend to pursue a Chartered Accountancy (CA) career place significantly greater importance on financial and job-related factors and perceived benefit-cost ratio than those who chose a non-accounting career." It partly

**Table 4: Reasons for the First Choice of Library and Information Science Programme**

S/N.	Reasons for the Choice	Frequency	Proportion of Respondents (%)
1.	High social status and respect	47	9.96
2.	Prospect of well-paid jobs	52	11.02
3.	Bright future career prospects	59	12.50
4.	Good working conditions	60	12.71
5.	Prospect of well-secured jobs	74	15.68
6.	Library working experience	325	68.86

N = 472



agrees, however, with that of Rooney et al. (2004) that majority of their study's participants had 'a secure attachment style implying that they are people-oriented and satisfied with their choice of career.' However, Saxton and Davies (2000) found that the three factors most frequently cited by students as important influences in career choice were that the course 'allows for professional development' (94%), 'use of professional knowledge' (94%), and 'finding the work personally rewarding' (89%).

**Table 5: When Respondents First Became Aware of the Programme**

S/N	First Awareness Period	Respondents	%
1.	Primary school	39	3.18
2.	Secondary school	151	12.30
3.	After secondary school	282	22.96
4.	Inability to secure admission to preferred course	756	61.56
	Total	1228	100

The results concerning respondents' first awareness of the course as indicated in table 5 are broadly categorised into 'before' and 'after' secondary school. Only 3.18% had early awareness (during primary school), followed by 12.30% who became aware of LIS while in secondary school. It is unfortunate that as much as 61.56% of the respondents got to know about the course only after

failing to secure admission to a preferred course in the university. Overall, the total proportion of students who were aware of the course before getting to the university was only stands at 38.44%. Ignorance about library and information science among most post-primary school leavers is therefore likely to be a key factor responsible for its low-level preference and popularity. This is unlike the case of other professions such as medicine, pharmacy, engineering and accountancy, where awareness of and interest among students is very high before they are ready for tertiary level education.

Availability of information sources on LIS is likely to be an important determinant when respondents first became aware of the course as shown in table 6. It is interesting that parents and/or relations constituted the main source of information for the respondents on the course prior to their admission. Parents and/or relations are known to have great influence on the career choice of their children and wards. This finding is in support of that by Sukovieff (2004), which correlated parent and parental occupation with students' career choice.

When the respondents were asked to indicate whether or not they believed that LIS possesses the characteristics of a good future career, the majority (55.80%) affirmed it, (17.51%) did not, while 26.63% were undecided. The bulk of respondents in the last two categories were found to be new entrants at the 100 and 200 levels of the course. This is an indication that their current views could be influenced by longer stay in the library school.

**Table 6: Available Sources of Information on Library and Information Science**

S/N.	Sources of Information	Frequency	Proportion of Respondents (%)
1.	Secondary School Guidance-Counsellor	89	7.24
2.	Secondary School Principal	98	7.98
3.	Secondary School Teacher	102	8.31
4.	Peers	113	9.20
5.	Radio, Television and Newspapers	181	14.74
6.	UME/JAMB Brochure	203	16.53
7.	On Campus During Admission Period	295	24.02
8.	Parents and/or Relations	367	29.89

N = 472



### Implications of the Findings

The findings of this study shed more light on the impression that library schools in Nigeria are dumping ground for unintelligent students. In particular, the findings that 38.44% of the respondents made library and information science their first choice course, is a sign that LIS is gaining popularity among the youth in the country. This also differs from those of Agumanu (1989) and Kantumoya (1993) where the general perception of LIS profession was largely negative.

That majority of those who chose the course initially had previous library work experience imply that sufficient exposure to library work is a key factor in the choice made. Their positive perceptions of the profession were the basis for the choice made. Conversely, that many others did not make such a choice might be due to ignorance about the course. Furthermore, that the majority of those who do not wish to remain in the profession were mainly first and second year students indicated that their current disposition could be changed by longer stay in the library school. These findings confirm that ignorance or inadequate awareness about library and information science programme among post-primary school leavers was a key factor responsible for its low-level preference and popularity. This agrees with the assertion by Hoppock (1976) that career choice information helps the individual to discover the career that meets his needs, what it offers and demands. Indeed, satisfying vocational choices become more likely when the individual successfully tests knowledge of assets and abilities against that of occupations and their characteristics. The emphasis is that "having complete insight into personal traits would not be enough in making vocational plans, until knowledge of occupations become available".

### Conclusions

The evidence from this study of improved popularity of the course among the study's respondents notwithstanding, library and information science is still largely unpopular among prospective undergraduate students in Nigeria. This is so especially when compared with such other high profile courses as accountancy, medicine and law. However, the low popularity of the course among the youth is due more to ignorance on the essence,

utility and career prospects of the course than on the inherent nature of LIS. Ignorance about the existence of LIS and what it entails among most post-primary school leavers was a key factor affecting its low-level preference and popularity. Exposure of the students to the theory and practice of the programme, the profession and their prospects both to the society and the practitioners engendered in them a more positive impression of the programme.

The diverse subject backgrounds of undergraduate students in Nigerian library schools ranging from social sciences, arts, humanities to commercial, is a clear advantage to the profession. This allows for subject specialisation by graduates in their future career.

### Recommendations

Generally, the findings of this study have implications for planning the recruitment into the LIS profession in Nigeria, as they suggest why the individual gets into such a career that could offer the highest income possible and provide several fringe benefits.

Based on the findings of the study, it is hereby recommended that: -

- Adequate and sustained publicity, especially among the youth in the primary and post-primary schools, should be made by the Nigerian Library Association, in order to increase awareness on the benefits of LIS to society and so popularise the profession. This publicity must be made in collaboration with government and other non-governmental agencies to reach the grassroots, especially primary and secondary schools. The guidance counsellors in schools will have an important role to play in this regard.
- Since young people are attracted more by what they can experience than by mere rhetorics, it is necessary to enforce the existing provision in the 6th National Policy on Education that every school should have a well equipped library and media resource centre. These should be manned by well trained personnel who can render modern library services to children and youth. The encounter by pupils and students with seasoned librarians and libraries in schools could positively influence the disposition of the children and youths to LIS.



Accomplished library and information professionals—both academics and practitioners—should take up responsibilities in organising and sponsoring mass media publicity programmes on the LIS profession. Apart from its obvious advantage of wider outreach, this strategy can help to jump-start great public awareness about the programme and the profession among a wider audience. Public awareness on the LIS profession is very vital if the profession must attract some of the best brains in the country who can meet the challenges of 21st Century LIS in Nigeria.

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K. I. N. NWALO



## The Renaming of the Library School in Ghana – Any Lessons for Administrators?

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### Abstract

*The study examines the implications of the name change of the Ghana library school from the Department of Library and Archival Studies to the Department of Information Studies, University of Ghana. It also explores the relationship between the name change and the sudden increase in enrolment of students in the department. A cross-sectional survey approach was used to elicit information from some fourth year (level 400) Information Studies students of the 2006–2007 graduating year. An in-depth interview was also conducted with the Head of Department who initiated the name change. This was to find out the reasons why the change in name was recommended, the challenges encountered in soliciting this change and finally, with the benefit of hindsight, whether the change has been worthwhile. Findings from the study showed that the students were attracted to the Department by its name, and, they were anticipating studying computer-related courses. This perception has many implications for administrators of the Department. The study recommends, among others, a review of the curriculum and strengthening of the human and technical resources of the department.*

### Background Information

The library school in Ghana was established in 1961 as the Ghana Library School. It was located in Accra under the auspices of the Ghana Library Board. During the first four years of its existence, the School produced 48 qualified librarians at the Associateship-level of the British Library Association. In 1965, the Library School moved to the University of Ghana, and was subsequently re-designated Department of Library Studies. In 1976, a centre for archival education in English speaking Africa under ICA/UNDP was established in partnership with the Department of Library Studies. That same year, the department was renamed the Department of Library and Archival Studies to reflect this new partnership. Programmes offered consisted of two sub-degree diploma programmes in Librarianship and Archives Administration, two graduate diploma programmes in Library Studies and Archival Studies, and a Master of Arts in Library Studies. (Narh, 2002).

In 2001, the library school changed its name again to the Department of Information Studies in response to the requirement of the new economy which expects graduates to be equipped with knowledge that will enable them follow careers in information management and its applications. Six years later, the department remains one of the preferred choices of students in the Humanities. This is reflected in the increasing yearly enrolment of students to its programmes. The range of programmes include the Diploma in Librarianship, Diploma in Archives Administration, Bachelors of Arts Information Studies, Master of Arts in Library Studies, Master of Arts in Archival Studies, Master



of Philosophy and Doctor of Philosophy. Table 1 provides information on the number of students enrolled during the decade, 1995-2005.

**Table 1: Students Enrolment**

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
141	*	158	137	179	313	344	782	1272	2254	2823

\* No school year as lecturers were on strike

Source: University of Ghana Annual Reports 1995-2005

One might ask why the department is currently being inundated with applications from prospective students. This was not the case a few years earlier (1995-1999) when the Department was under the name "Library and Archival Studies". Could the sudden change be attributed to the name change? What does the word "information" connote to applicants? The aim of this study is to investigate why the Department of Information Studies has become a popular choice of study for prospective students, and what needs to be done to sustain the interest, in order to remain the first choice of many Humanities students. It is hoped that the findings of this study would inform administrators in adopting measures to improve upon the level of interest shown in the department and also to provide guidelines or strategies for other library schools in Africa which may be experiencing enrolment challenges.

### Early History of Education for Librarianship

Formal library school education started as far back as 1866, when Melvil Dewey founded the first School of Library Economy at Columbia College. Before then, library education consisted of apprenticeship programmes tied to individual libraries. The librarianship "boom" occurred from 1948 to 1970, when many schools were opened to meet the needs of vacant library positions (Ostler and Dahlin, 1995). It was just around the same time that the current information explosion began during World War II, and the post war research that was funded by the government also took place. Much of the funding, under the guise of defence research, went to major universities and was used for other educational programmes, including library schools. People handling the resulting information changed from being

merely shufflers of paperwork to organisers of massive quantities of information. Throughout this time, there were conflicts over the practice of librarianship and the education of librarians with

regard to the ratio between practical and theoretical instruction within their own curricula and the need for research. Library schools ignored the developments in the new field of information production and handling. This denial of the information revolution and the resulting multiplicity of types of information enhanced the splintering of the profession between traditional librarians and library schools and information scientists. Finally, library schools themselves began closing in the late 1970's. They were slow to respond to the information paradigm shift, and failed to notice the emerging competition. The closure brought in its wake an identity crisis in the librarianship profession with many librarian positions being abandoned and filled by less expensive paraprofessionals. Enrolment of students decreased as did faculty numbers. Ostler and Dahlin (1995) mentioned that the positive side of this crisis of confidence provided a wonderful opportunity to reconsider the foundations of the profession and professional library education. The shock of multiple library school closings focused interest on future directions for library education.

### Name Changes – Positive and Negative Aspects

In an effort to begin to align themselves with the new information paradigm, library schools began to change their names to include some form of the word "information" Crowley (1998). Permutations range from "information studies" to "information management" or "information science". In 1960, 100% of all library school programmes had *only* the word "library" in their titles. By 1986, 54.4% had both "library" and "information" included in their names (Voos, 1985). By 1998, at least three schools



no longer had the word "library" in them at all. Name changes were the quickest tactic to attract more students. The broader the name, the more students the school might attract. At first, the name changes were "cosmetic" only and curricular changes came slowly (Ostler and Dahlin 1995). Most proponents of library school name changes agree that the changes are important in recruiting a new type of student. Crowley (1998) also mentions that the word "library" has very negative connotations in the for-profit environment. Yet for-profit realities are not the sole reason educators shy away from the words "library" and "librarian." Their embrace of "information" forms part of a strategy to enhance status within the university community.

Name change is also psychological. It tells the potential students that the field of information science is not limited to librarianship, and that information science education can lead to non-traditional, higher paying jobs. "Information science" connotes that information is everywhere and that graduates of a programme can work just anywhere, whether in a library, corporate setting, or as a freelance information broker.

An example is the School of Information at the University of Texas (UT) at Austin. Founded in 1948 as a part of the UT Graduate School, the School's name was changed in 1980 to Graduate School of Library and Information Science, in recognition of the increased emphasis on information science in the curriculum as it had evolved since the late 1960s. As recently, as 2000, the Masters degree name changed again to Master of Science in Information Studies. The change reflects the breadth and variety of information studies in the 21st century. In 2002, the faculty voted unanimously to change the school's name from Graduate School of Library and Information Science to School of Information. The new name took effect in 2003 to better reflect the diversity of issues and the multidisciplinary nature of the studies in the information field.

Sroka (2002) examines the changes in Polish library education after the end of the Cold War. Special attention is given to organisational and curricular changes at library schools that are in the forefront of educational reform. The new curricula emphasise the importance of information science and new information tools, such as the Internet and the

electronic databases. The role of bibliographical studies, however, is still important, and many library schools try to combine traditional library science with modern information science.

Chu (2001) mentions that library science education in China began in 1920. Until 1978, there were only two library schools. Now, the number of schools of library and information science (information management) is about 50. During the past few years, great changes have taken place in Chinese library science education including the change of the names of library schools (departments). The names of library schools were changed from library science to library and information science in the mid-1980s and to information management a decade later. By the end of the 1990s, some schools were enlarged or incorporated into colleges. The names of the colleges were various, such as "mass communication and knowledge/information management", "information management and communication" or "business administration."

### Curriculum

Critics of the name change initiatives feel that while name changes may appear to be a token effort to address the reality of the information paradigm shift, it takes time and strategic planning to develop a corresponding curriculum that is properly balanced between theoretical and practical education. What the initiatives did was often to foster antagonistic relationships with other departments on campus which felt that library schools were encroaching on their academic territory. Gorman (2003) also expresses concern about library schools becoming hosts to information science and information studies faculty and curricula. He adds that these disciplines (if they exist at all) are, at best, peripheral to library work and, at worst, inimical to it. Many of the topics regarded as central to a library education (cataloguing, reference, collection development, etc.) by would-be employers are no longer central to, or even required by, today's LIS curricula. In its place are subjects such as user modelling, information visualisation, human-computer interaction, business taxonomies, strategic intelligence, social and organisational informatics, computational linguistics, electronic commerce, and computer programming for information management.



Chu (2001) mentions that curriculum is the core of the reform. After the renaming, many schools revised or re-designed their curricula. In their curricula, courses relating to traditional library science such as "History of books" and "Libraries" disappeared. Instead, many computer-related courses were added. Crowbold (1999) states that several schools set up interdisciplinary, cooperative degree programmes with other schools on campus, offering joint or merged degrees. Examples are the School of Information at the University of Michigan and the School of Library and Information Science at Louisiana State University. They have developed joint degree programmes. Some critics have mentioned that library school education is in itself interdisciplinary and needs no further "strengthening" by diluting itself with other departments. For them, losing independence can be a first step to losing the programme entirely.

### Changing Faculty Profile

The nature and type of the faculty members in LIS schools is one of the key challenges of library education (Gorman, 2003). Many US LIS schools are in research universities, and their faculty members tend to conform to the norms and ideals of those institutions. The LIS schools are expected to produce a quantity of pure research that is either in peripheral areas or in areas unrelated to library work. Though these changes have been driven, to some extent, by changes in the culture of academia, they have to a greater extent been driven by changes in the people who teach in LIS schools. Many contemporary LIS faculty members have no training in librarianship and/or little or no experience working in libraries. Individual interests of LIS faculty are, increasingly, marginalising education in librarianship in favour of information science and other computer related interests and courses. This may or may not be a bad development for those schools but it is, undoubtedly, not the best for librarianship and its future.

### Employment after Graduation

The renaming is expected to provide graduates with more options when searching jobs. According to Takeuchi (1999), Japan faces several problems in library and information science education and

profession. Only three to four per cent of all qualified graduates find employment in libraries. The remainders are employed in other fields. Takeuchi (1999) expressed the need to produce professionals who can function not only in existing library and information environments, but who can also design, build, and manage new digital information systems and services from a human-centered perspective. Tsuji, et al. (2006) confirmed Takeuchi's earlier observation about inadequate jobs for library professionals. They mentioned that the information profession (Shisho) was very popular among university students, and more than 10,000 of them obtained the certification each year. Ocholla (2000) states that the need for market diversification and job opportunities in the market has forced new thinking in library and information science (LIS) education in South Africa. There are 18 LIS departments in South Africa's tertiary educational institutions today. LIS departments are engaged in survival driven change that includes curriculum review and revision for the new challenges. As a result, there are departments with hybrid programmes at undergraduate and graduate levels, there are those that have abandoned library science in favour of information science, and there are those that have merged with related disciplines.

### Methodology

The study utilised a cross-sectional survey approach involving Level 400 Information Studies students of the 2006–2007 graduating year. These students were chosen because they have undergone four years of instruction in the Department. A sample from the population of 673 was used for this study. A sample size of 100 students was used, which is 14.8 per cent of the population. A combination of stratified and convenience sampling techniques was used. Proportionate stratified sampling was used to ensure a fair representation of both male and female students. The sampling was based on the population size of 380 male and 293 female students. Using a simple ratio of the representations, a structured questionnaire with open and close-ended questions was thus administered to 56 male and 44 female students, who were willing to participate during a scheduled lecture period. In all, 88 copies of the



questionnaire were received, representing a response rate of 88% per cent. Out of the responses, 74 were completely answered, while 14 were incomplete. Apart from the questionnaire, an in-depth interview was conducted with the former Head of Department at the time the change of name was effected. This was to find out the reasons why the change in name was recommended, the challenges encountered in soliciting this change and finally, with the benefit of hindsight, whether the action had been worthwhile. Data from the questionnaire were analysed using SPSS and Excel software. The data were coded into SPSS and frequencies generated. The frequency distribution generated thus expressed the opinions or views of respondents on each question. The data generated from the interview with the then head of Department is presented in narrative form, since they are not numerical and cannot be analysed with the usual statistical tools.

## Findings and Discussion

### General Information

The study ensured that a fair representation of both sexes were included in the study. 50 respondents representing 56.8% were males while 36 respondents representing 40.9% were females. There were two non-respondents representing 2.3%.

The study sought to find out if students chose to study in the department or whether they were just assigned to the department. Out of the 88 respondents, 74 representing 84.1% chose to study in the department, while 14 representing 15.9% were assigned to the department by the Registrar. Those who chose to study in the department gave a number of reasons. They include among others, opportunity to study IT and related courses (27 respondents, representing 30.7%), continuation of Diploma course (15 respondents representing 17%), Looked like an easy and interesting course (10 respondents representing 11.4%) and attracted by Department's name (three respondents representing 3.4%). When the respondents were asked whether their aspirations have been met four years after studying in the department, 11 respondents (12.5%) indicated 'Yes', 13 respondents (14.8%) stated 'No', while 53 respondents (60.2%) indicated 'Somehow.' As

many as 11 students declined to answer this question, possibly because they were not sure.

Respondents who did not initially apply to the department were also asked to indicate their views on the Department, four years after studying in the department. One respondent (7.14%) indicated that he was very satisfied, 8 respondents (57.14%) mentioned that they were satisfied, while 5 (35.71%) stated that they were not satisfied. Respondents were also asked if they would still have chosen to study in the Department if it bore its former name of Library and Archival Studies, 20 respondents (22.7%) would still have chosen the department even if it bore its former name, while 67 respondents (76.1%) would not have chosen the department under the former name. This finding seems to suggest that the name change is very important in attracting more students to the department.

## Curriculum

### Levels 100 and 200

Respondents were asked to assess all the courses taught starting from the first year (Level 100) through to the final year (Level 400). First year courses taught include : *Information in Society* and *Introduction to Information Management*. For the second year, *Introduction to Information Technology*, *Principles of Management*, *Information Management*, and *Introduction to Computing* are taught. Generally, respondents indicated that the first and second year courses were either 'Very useful' or 'Useful'.

### Level 300

Opinions varied on the courses taught in the third and fourth years, opinions were varied. Responses ranged from 'Very useful', 'Useful' and 'Not Useful.' The five core courses taught in the third year are *Information Sources*, *Theory and Practice of Classification*, *Research Methods*, *Indexing and Abstracting* and *Public Relations*. Twenty-five respondents (27.9%) indicated that they were 'Very useful', 38 respondents (43.4%) stated that they were 'Useful' while 17 respondents (18.9%) indicated that they were 'Not Useful.' There were 8 non-respondents (9. %).



Six electives were also offered during the third year and these include *Collection Development, Systems Analysis and Design, Archives Administration, Records Management, Publishing and School Libraries*. A significant number of the respondents, 36 respondents (40.35%) indicated that they were 'Very useful', 27 respondents (31%) stated they were 'Useful', 9 respondents (10.4%) mentioned that they were 'Not Useful' while 10 respondents (11.4%) had 'No Opinion.' There were 6 (6.8%) non respondents.

It is important to compare the views of students on the levels 100 and 200 courses as against level 300 courses. In the first two years, the two courses are general, broad based and non-technical, and so the students found them 'Very useful' and 'Useful'. However, when it comes to the courses in Level 300, they found some of the core courses to be 'Not Useful.' This reason could be attributed to the fact that these courses are more focused on libraries and on archival studies, and are thus more technical. Similar findings were made by Ibadin (2006), when most of his respondents mentioned that they did not perceive the traditional courses in library and archival studies to be relevant to the B.A Information Studies programme.

#### Level 400

Four core courses are offered at the fourth year of academic work. These are: *Automation of*

*Information Systems, Information Storage and Retrieval, Preservation of Information Resources and Marketing of Information Services*. Majority of the respondents, 49 respondents (55.4%) indicated that the courses were 'Very useful', 29 respondents (32.7%) mentioned that they were 'Useful', three respondents (2.9%) stated that they were 'Not Useful,' while three respondents (3.7%) had 'No Opinion.' There were five non-respondents representing 5.4%. Electives are also offered during the fourth year. These cover *Telecommunications and Information Networks, Programming of Information Systems, Literature and Services for Children, Introduction to Administration and Automated Information Retrieval*. A sizeable number of the respondents (35 or 39.83%) indicated that they were 'Very useful', 31 respondents (35%) stated that they were 'Useful', 6 respondents (6.6%) mentioned that they were 'Not Useful' while 8 respondents (7.95%) had 'No Opinion.' There were 8 (9.3%) non respondents.

#### Courses which should be Dropped or Modified

Most of the respondents (53 or 60.3%) mentioned that seven level 300 courses and four level 400 courses should be dropped. Among the level 300 courses, three are core courses and four electives. For the level 400 courses, two are core and two electives. Table 2 shows the courses advocated to be dropped.

**Table 2: Levels 300 and 400 Courses to be Dropped**

Status	Level 300	Level 400
Core	Information Sources	Automation of Information Systems
	Theory & Practice of Classification	Marketing of Information Services
	Indexing & Abstracting	
Electives	Collection Development	Introduction to Administration
	Introduction to Archives Administration	Programming of Information Systems Application
	School Libraries	
	Publishing and the Book Trade	



The above responses to the dropping of core courses especially at Level 300 seem to reflect students' opinion of the usefulness of the courses. They are not seeing the importance of these courses which form the bedrock of library activities. The department would need to incorporate IT content into these core courses to make them interesting and relevant to current demands.

Some respondents (25 or 28.4%) however mentioned that some of the courses should be modified. These include two courses from Level 200, four core and four electives each in Level 300, two core courses in level 400, and five electives in level 400 (Table 3). The reasons they gave for modification included the need for practical sessions,

'Very Adequate', 13 (14.8%) mentioned that they were 'Adequate', and 73 respondents (83%) stated that they were 'Not Adequate.' Similar responses to the above were received for the question on adequacy of Internet connectivity. Two respondents (2.3%) indicated that they were 'Very Adequate', three (3.4%) mentioned that they were 'Adequate', and 73 respondents (83%) stated that they were 'Not Adequate,' 7 (8.0%) had 'No Opinion' and 3 (3.4%) were non respondents.

### Books and Journals

Respondents were asked to indicate if the books and journals were adequate. Books were rated as follows: 4 respondents (4.5%) stated that they were 'Very

Table 3: Courses to be Modified

Status	Level 200	Level 300	Level 400
Core	Introduction to Information Technology	Information Sources	Automation of Information Systems
	Introduction to Computing	Theory & Practice of Classification	Marketing of Information Services
		Indexing & Abstracting	
		Public Relations	
Electives		Collection Development	Introduction to Administration
		Information Services and User Studies	Automated Information Retrieval
		Systems Analysis & Design	Telecommunications and Information Network
		Introduction to Archives Administration	Programming of Information Systems Application
		School Libraries	Literature and Services for Children

similarity with other courses, course content too bulky, poor delivery of course, topics irrelevant to modern world, and need to limit some courses to students offering librarianship. There were also 10 (11.4%) non-respondents to this question.

### Facilities/Resources

#### Computers and Internet Connectivity

Respondents were asked to express their views on the facilities and resources in the department. Two respondents or (2.3%) indicated that they were

'Adequate', 46 (52.3%) mentioned that they were 'Adequate', 33 respondents (37.5%) stated that they were 'Not Adequate,' and 5 (5.7%) had 'No Opinion.' For journals, 3 respondents (3.4%) stated that they were 'Very Adequate', 25 (28.4%) mentioned that they were 'Adequate', and 45 respondents (51.1%) stated that they were 'Not Adequate,' 10 (11.4%) had 'No Opinion,' and 5 (5.7%) were non respondents.

#### Lecture Halls

Respondents were asked to indicate if the lecture halls were adequate, one respondent (1.1%) stated



that they were 'Very Adequate', 22 (25%) mentioned, that they were 'Adequate', 62 respondents (70.5%) stated that they were 'Not Adequate,' and three (3.4%) were non respondents.

### Lecturers

Respondents were asked to give their opinions on the adequacy of staffing in the department, two respondents (2.3%) stated that they were 'Very Adequate', 33 (37.5%) mentioned that they were 'Adequate', 39 respondents (44.3%) stated that they were 'Not Adequate,' 10 (11.4%) had 'No Opinion' and 4 (4.5%) were non respondents.

As it has been expressed, facilities and resources were considered generally inadequate and the department would have to find ways to improve them. The volumes of books, journals and computers have not increased substantially, while the number of students has increased astronomically. The ratio of computers to students in the department stood at 56:1.

### Practical Sessions

Respondents were asked about the adequacy of the practical sessions, two respondents (2.3%) stated that they were 'Very Adequate', 11 (12.5%) mentioned that they were 'Adequate', and 71 respondents (80.7%) stated that they were 'Not Adequate,' 3 (3.34%) had 'No Opinion' and one (1.1%) was a non-respondent.

Having more practical sessions could be one of the solutions to the problems students are having in comprehending the core courses. Most of these courses are technical in nature and having only theoretical sessions make it difficult for students to appreciate the value of the courses taught. There needs to be a balance between the practical and theoretical approach. However, there is the problem of adequate staff to handle the practical sessions. Faculty members are simply overstretched and overwhelmed with the numbers they have to handle in each class. A typical core class takes as many as 700 students. Breaking the class into little groups of 25 or even 50 students for practical sessions seems impracticable for current faculty members as the possibility of any of the groups not having a practical session during the semester is high. It is recommended that many teaching assistants be hired

and trained by the department to handle the practical sessions.

### Reasons for Upsurge in Enrolment

Respondents were asked to express their opinion on why the department was experiencing increasing student enrolment. Some of the reasons provided were as follows: 29 respondents (33%) indicated that it was because of the IT related courses, 29 (33%) stated that it was because of the name of the department, 10 (11.4%) mentioned that it was the Registrar who was just assigning students to the department, 5 (4.5%) indicated that students were valuing the importance of information needs in society, and 4 (4.5%) mentioned that graduates from the department have the opportunity to work anywhere.

### Perception of Other Students about the Department

Respondents were asked about the perception of students from different departments about them. A large number of the respondents 34 or 38.6% indicated that they were regarded as librarians and archivists, 28 respondents (31.8%) stated that they were perceived as students endowed with IT knowledge, 6 respondents (6.8%) mentioned that other students equated them with computer science students. These perceptions seem to corroborate the findings made by Ibadin (2006), when he mentioned that other final year students from the Faculty of Social Studies had a fairly good perception towards the department and considered it as important to the growth of industry and the economy. With this perception, one could only hope that graduates from the department would be adequately computer-literate librarians and archivists.

### Findings from the Interview with a former Head of Department

The Head of Department who initiated the process for the change of name mentioned that it was necessary for the department to identify with similar departments worldwide. He cited examples of library schools in London, Sheffield, and Wales (UK) which changed their names, having recognised the fact that the roles of librarians, archivists and other information practitioners continue to change, as clients/ users are



demanding access to new bodies of information other than books, periodicals, and archival records.

In furtherance to this move, he mentioned that the department was providing basic knowledge to students to follow careers in information management and its application and not in librarianship or archives alone. Students were being trained to compete in the new information society, which requires the services of information workers of many kinds such as records managers, technology librarians, corporate planners, information scientists, technology librarians, information systems managers, etc. In view of this, the department began to acquire the necessary resources (human and technical), in order to achieve these new objectives. New programmes offered include: *Systems Analysis and Design*, *Computer Programming*, *Management of Information Systems*, *Information Technology Applications*, *Computer and Information*, *Information Retrieval and Storage Systems*, and the *Internet*. He believed that these programmes were necessary to prepare students to perform diverse roles in the new information society.

The Head described the process involved in implementing the change, which included an initial proposal to the Social Studies Faculty Board, and then to the University's Academic Board and finally to the University Council. With the acceptance of the proposal, two changes were effected and these were the change in name of the Department as well as a change in the name of the degree awarded to Bachelor of Arts in Information Studies. The first intake of students into the new Department of Information Studies took place in the year 2000.

The former Head was also asked about his sentiments seven years after the name change. He indicated that he had no regrets for this change and even hoped that the curriculum for the MA and MPhil programmes would also undergo a review to reflect current trends in the profession. Currently, graduates who complete these two programmes are conferred with the degree in Library or Archival Studies, and not in Information Studies.

## Suggestions for Future Development

### Curriculum Changes

Periodic curriculum changes are often needed to align LIS programme with emerging information society requirements. Administrators must, however, be careful not to marginalise education in librarianship in favour of information science and other computer-related interests and courses. Core programmes such as collection development, cataloguing and classification, reference and library instruction, information sources, records management should be gradually introduced at levels 100 and 200, so that students who are not comfortable with the courses would opt for programmes in other departments earlier in their academic pursuits. This would leave the department with students who have keen interest and are determined in pursuing a career in librarianship or archival studies. Presently, the programme does not give students the opportunity to leave as early as possible (as the core courses are started at levels 300 and 400) and this makes them feel trapped in the department.

### Development of IT Infrastructure and Practical Training

There is no doubt that the change of name is attracting many young undergraduates to the department. But the students think they are coming to read computer science in the department. Such perception or thought by students should be discouraged by the department. What needs to be emphasised is that computer technology is but a part of the wide and multi-dimensional range of programmes and services that make up modern librarianship. It is for this reason that administrators need to ensure that IT infrastructure in the department are adequate to meet the needs of the students and the curriculum. In addition, administrators need to ensure that the IT component of each of the courses taught be given equal attention as the manual component. This can be done either through practical sessions, or through self-tutoring manuals/guidelines, which students can use on their own.



### Faculty Development

As a result of the multi-disciplinary nature of librarianship, the department is finding solace in hiring adjunct faculty from the Computer Science Department to teach the relevant IT courses. Though this is a good solution to the immediate faculty inadequacy, the department should envisage a long term solution to the problem by sponsoring its current faculty to study IT and related disciplines. The benefits to be derived from this would include a greater number of committed full-time staff with undivided attention, faculty with multi-disciplinary background, and more focused teaching of relevant library/IT programmes.

### Conclusion

The increasing enrolment of students in the department is due in part to the change in name of the department. Students are attracted by the word "information" and expect to read IT related courses. Their expectations do not seem to be met during the third and fourth years of study in the department, when they have to take core courses focused on library and archival studies. The department can help students take an early decision about their continual stay in the department by introducing some of the core courses during the first and second years, so that those who stay on are those willing to pursue a career in library and archival studies.

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# Providing Information Communication Technology-Based Support to Distance Education Students: A Case Study of the University of Zambia

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## Abstract

*Student support is a major factor in distance education. This study was concerned with the use of ICT as a medium for providing student support at the University of Zambia. It was necessary to study the factors that would affect the application of ICT, in order to inform policy makers and managers of distance education which ICTs would be feasible within the context of the students of the University. A questionnaire was sent to 393 randomly selected students of the programme. The findings have shown that students had a positive attitude towards ICTs. However, access to the ICTs had an influence on the types of ICT that the students were willing to use for their studies.*

## Introduction

The University of Zambia has been offering distance education mode since 1966, the time of its inception. Distance education was identified as a means of providing access to the university level of education to those who missed it after their school, for various reasons, and those who may be working but wanting to study without being in full-time mode. It was

recognised that there was need to provide an alternative mode of delivery of higher education, in order to increase opportunities to people of Zambia who may not be able to enrol for the full-time studies.

The factors that led to the development of distance education at that time included response to the country's need for human resource development at the time of political independence and the demand for this level of education from people who had got into employment without university education. Distance education was, therefore, identified as a means of expanding enrolment for university education (Siaciwena, 1988; University of Zambia, 2001).

According to the University of Zambia's Strategic Plan (University of Zambia, 2001), the distance education programme was the means of:

Providing wider access to a range of entrants through: diversified and flexible formats of study, to cater for those unable to participate in regular schemes of study, and through the effective utilization of the existing ICT infrastructure especially its use in Distance Education.

Some of the achievements of distance education are an increase in enrolment. About 18,000 were enrolled as distance education students between 1967 and 2003 (University of Zambia Directorate of Distance Education, 2004).

The University of Zambia uses what Peters (2002) calls the mixed-mode of distance education. In this approach, courses are developed along the same principles as those courses offered to the full-time students, so that the distance learners follow the same curriculum, and are subjected to the same



performance requirements as the full-time students. The same lecturers, who teach the full-time students, provide the academic guidance, set and mark the assignments and examinations, and give the face-to-face lectures during residential school. The Directorate of Distance Education (DDE), which is one of the units of the University at the main campus, coordinates the programme. In addition to studying at home, distance education students attend a one-month face-to-face with lecturers or residential school ideally at the beginning of each academic year. They spend the rest of the year studying in physical separation from the institution. Print materials are the major media using the postal means of communication for assignment, feedback and all communication. Some students use the telephone and fax, depending on the urgency of an issue (Siaciwen, 2000a).

During residential school, students are given tests and some assignments that must be done within that period. Feedback is then given after marking, depending on the size of classes. After the residential school, the students write the remaining assignments from their homes and post them. The feedback to the assignments is also posted to the students by DDE after receiving them from the lecturers. These tests and assignment results are subsequently compiled into continuous assessment records and kept by the teaching staff and departments. The continuous assessment grades are also kept in the student records that are maintained by DDE. If lecturers misplace their copies of the grades, they go to DDE for the information.

The University of Zambia provides administrative support, academic support, and counselling to the distance students. It is through these services that interaction between the students and the various services of the University is promoted. This support is provided during residential school and by mail, phone, tele-fax and face-to-face to the students that can reach the University.

Print materials have been the major format of course materials. Consequently, the post has been the major means of interaction between the University and the students, as well as the distribution of the course materials. However, the students collect the initial course or study materials during the residential school. Siaciwen (1988) noted that although reliable in the sense that most mails that were sent by post

reached the intended recipient, it took at least 2 weeks for mail to reach its destination and about a month for a turn around. The author describes this situation as unsatisfactory.

In addition to the inefficiency brought about by the reliance on the postal system, UNZA has been encountering financial and human resource deficiencies that have affected the institution's ability to provide effective student support to both full-time and distance education students. The University of Zambia Library has not been able to acquire new information and study materials for a long time (University of Zambia, Annual Report 2004). In a bid to alleviate some of the problems, UNZA has invested efforts and resources into the application of information and communication technologies (ICTs). In the University's quest to expand its ability to provide wider access and to provide the most flexible formats of higher education, UNZA has sought to provide laboratories and computer networks in every unit. In this regard, the University embarked on the Computers for Academic, Management and Administrative Support (CAMAS) Project.

Regarding distance education, there was additional need to "exploit the potential of ICT to improve the quality of course materials and the provision of learner support services." (University of Zambia, 2001). The University planned that, under the CAMAS Project, computers and ICT in distance education would:

- (a) Be used for interactive teaching and learning by students and their teachers.
- (b) Be used to conduct actual teaching to all the provincial centres, all of which are connected to the national telephone system.
- (c) Transmit teaching materials to provincial centres.
- (d) Be used to collect materials from other resource centres on the Internet.
- (e) Allow students and teachers at the University to interact with their counterparts in other institutions with similar programmes.

Other than the CAMAS project, another programme was conceived with the support of the Flemish Inter-University Council (VLIR) of Belgium and UNZA Institutional University Cooperation programme, coined as the VLIR-UNZA IUC. According to Siaciwen (2000b), the distance education component of this programme aimed at



achieving the following:

- Capacity building (including staff training)
- Automation of administration/management system
- Improved student support services
- Enhancement of infrastructure

More specifically, according to the VLIR: IUC-UNZA: Distance Education Action Plan 1997-98, the Project's main objectives were to enhance the capacity of the DDE through improving the technologies and other communication facilities between the different actors involved in production and dissemination of learning materials.

The plan was that by the end of the year 2000, all the nine regions of the country would have computer facilities and be connected to the Internet and/or the University network (VLIR-UNZA-IUC, 1997). The nine regions are: Central, Copperbelt, Eastern, Luapula, Lusaka, Northern, North-Western, Southern and Western. There would be databases of programmes and courses offered at distance including the majors and minors, the prerequisites and all information on the various programme requirements. There would be databases of students indicating the programmes, majors and courses taken, assignments written and marked, etc. There would be a database providing information about schools, departments and lectures on the various courses. In addition, a website would be developed to provide information on the project and the Distance Education programme for easy and wider availability of information. The course materials would also be accessible electronically.

By the end of 2004, all the provinces had computers, printers, scanners and copiers installed, and Internet accounts were opened (University of Zambia, DDE, 2004). The database was created in readiness for launching. Training for the utilisation of the system commenced. With the use of e-mail, communication between resident lecturers in the provincial headquarters improved (University of Zambia, Directorate of Distance Education, 2004).

The University had plans to develop and launch the web-based student records and student monitoring system. With the web-based system in place, it was hoped that students would be able to access information from the University server, as well as

globally available information using the Internet. They would also be able to write and send their assignments using the ICT. Thus, it was hoped that student support services would be enhanced through easy communication and availability of information.

### Problem Statement

This paper, therefore, reviews some of the factors that would affect efforts by the UNZA administration to bring these aspirations to fruition. The paper, particularly, assesses the attitudes and situations of the students, in relation to the provision of ICT-based student support to their studies.

### Objectives

Two specific objectives that were set for this paper:

1. Determine the attitudes of the students towards the utilisation of ICT in the provision of the student support.
2. Assess the accessibility to the ICTs that the students would need to utilise in the ICT-based student support.

### Research Questions

The following questions guided the data collection for the given objectives:

1. What are the students' attitudes towards ICT-based course materials?
2. What are the students' attitudes towards ICT-supported interaction between the university staff and themselves?
3. Do the students have access to the ICTs required for them to utilise the ICTs effectively in their studies?

### Review of Literature

Literature was searched and selected on the basis of the major variables in the research, these were: attitudes towards use of ICT; conditions of use of ICT; and availability and accessibility of ICTs.

### Use of ICT in Distance Education

In many countries, postal services, as a means of communication and interaction for learners, have been found to be inefficient (Iskandar, and Romiszowski, 1995; Perraton and Potashnik, 1997). These authors have agreed that alternative means of



communication, particularly use of new information and communication technologies, would alleviate the feedback inefficiencies. Learners tend to be motivated by being in close touch with their facilitators or teachers, as such, quick feedback to their problems is crucial (Chickering and Ehrmann, 1996; Maguire, 2005).

According to the various definitions of distance education, the teaching and learning processes take place by use of some media, both telecommunication and various other ICTs (Garrison & Shale, 1987; Barker et al, 1989). UNESCO (2002) has aptly said that:

Clearly, the concept "distance education" is concerned with a form of educational delivery, where the acts of teaching and learning are separated in time and space, and technology plays a significant supporting role in enabling this form of delivery. Although DE certainly depends on communication technology, it is much more than just technology. Rather, it is a total delivery system.

According to UNESCO (2002), "in order to bridge the barriers of time and space, distance education must necessarily use a variety of ICTs to present the learning materials and provide for interaction."

Information and Communications technology (ICT) is an embracing concept that includes the systems, processes and people that are involved with technologically mediated communication. Information and Communication technologies (ICTs) refer to 'a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information (Blurton 1999).

• The evolution of technologies, with specific convergence of the ICT, has had tremendous influence on the modern distance education delivery. In information technology, convergence is a term for the combining of personal computers, telecommunication, and television into a user experience that is accessible to everyone (Farrel, 1999).

UNESCO (2002) explains that:

the convergence of technology refers to the

meeting place between advances in telecommunications and advances in computing that are made possible by storing and communicating data in a binary digital format that is increasingly becoming more interoperable.

The convergence makes it possible to deal with voice, video and computers data in the same medium in a complimentary manner. It is for this reason that the Internet has become a great opportunity and enabler in distance education. As UNESCO (2002) has observed:

Internet might be complemented by other multimedia such as print materials, CD-ROMS containing varied media, telecommunicated audio- and video-clips, and the Web's own hypertext/hypermedia capabilities.

The advent of the web (World Wide Web) has made interaction between learners, as well as between learners and teachers or, easier and more efficient. In what UNESCO (2002) calls "third generation distance education," ICT has made it possible for learners and teachers to communicate and share information in a synchronous way.

Depending on how they are applied, technologies could bring a lot of benefits to distance education. Birchall, (1995) says "information technologies may have some comparable advantages and disadvantages in terms of what would be lost from the lack of face to face contact and what would be gained from the "invisible library and speed of electronic communication."

The use of ICT for student support could be categorised into: cognitive support, affective support, and systemic support (Dzakiria, 2002). Cognitive support deals with developing learning through the mediation of the standard and uniform elements of course materials and learning resources. Affective support deals with providing an environment that supports learners by creating commitment and enhancing self-esteem. Systemic support is concerned with administrative processes and information management systems.

According to Dzakiria (2002) quoted in Usun, (2004) the role of ICT in such areas is to facilitate interaction. The interaction is in form of learner-content, learner-learner, and learner-instructor. The separation of students from the institution and from



physical contact with the teaching staff makes interaction a cornerstone of this mode of education (King and Doerfert, 2000) Chickering and Erhmann, 1996; Maguire, 2005). From the point of view of the need to facilitate interaction, ICT could be said to provide a wide range of advantages in both teaching and learning (Maguire, 2005). Student support therefore should aim at facilitating learning.

However, in order for ICT to be fully utilised, there is need to customise the application of the ICT according to the local conditions and environment. It is for this reason that various countries could adopt ICT in different combinations.

Generally, it is believed that the problems associated with access and availability of information resources, such as the University of Zambia is facing, could be alleviated with the use of Internet through accessing the web-based information resources, the use of CD-ROMs and other media such as audio and video technologies (Bates, 2001).

In Africa, a growing number of countries have begun to apply ICT. Although print materials are the primary means for providing education to teachers at a distance, they have been supplemented by other ICTs including audio and video delivered through broadcasts and cassettes (Murphy *et al*, 2002). Countries like Cote D'Ivoire, Ethiopia, Ghana and Guinea are using satellite broadcasting, CD-ROMS, Internet, phone, fax, in addition to the print technologies under the African Virtual University programme, while others like Namibia, Botswana, Swaziland have been developing programmes that would utilise videoconferencing, radio, television, etc. (Murphy *et al* 2002). In Mozambique, the Universidade Eduardo Mondlane has developed a distance education programme using CD-ROM, Internet, Web hosting and E-mail (Intelecon Research, 2000). Within Africa, a number of countries have, either singularly or in franchise, used e-learning platforms. The University of Pretoria has been using the e-learning, and is exploring ways of going into mobile learning or m-learning (Brown, 2004).

### **The Zambian Situation**

Zambia has experienced a growth in ICT usage over the past decade. The major service providers are as follows: five Internet service providers, three mobile phone service providers, one land line phone service

provider, two television broadcasters (with only one covering most of the country), and about nineteen radio broadcasters – eighteen of which are community radio broadcasters and only one public and national broadcaster (Habeenzu, 2004). The country has been on full Internet connectivity since 1994; second only to South Africa among the early countries to go on full Internet in Africa (Robinson, 1996). However, due to inadequate infrastructure, there has been very low teledensity, about 2.94 as of 2003, low internet bandwidth and very high communication cost (Habeenzu, 2004). This has affected the degree to which ICT could be said to have fully penetrated the country.

The University of Zambia library is also in the process of full automation of its services. At the moment, the catalogue and circulation services are running on the Dynax system. The library also provides access to a wide range of electronic resources. This service started as an International Network for Availability of Scientific Publications (INASP) supported project through a programme called Programme of the Enhancement of Research Information (PERI) (Simui, 2004). These services and all of UNZA's ICT programmes would not be of much benefit to students if access was not made available.

### **Accessibility and Attitudes Affecting the Use of ICTs**

Accessibility should be taken into account in the design of technology-based distance education (Bates and Tony, 1995); Commonwealth of Learning (1999). Accessibility to users has to be well prepared for. It is not prudent to provide ICT-based support to only one group of users and not the rest. It is for this reason that at the University of Natal-Pietermaritzburg and the South African College of Teacher Education "with only 15 per cent of learners with access to a computer and just 7 per cent with Internet access, ICTs could not be used as a medium for student support by the year 2000." (Vaughn, 2000). Murugan and Thomas (2002) raise important questions that must be addressed before deploying ICT as: "What is the right mix of interaction with the learners and the need for learner autonomy? What is the distance between the learner and the resources such as location of the ICT?"



Many authors have cited attitudes and perceptions to have greater effect than access, skill and other factors (Daley *et al*, 2001; Maguire, 2005). Burn and Thongprasert (2005) found that perceived value of the computer-based information had a strong effect on the use and learning habits. These factors are so strong that they need to be considered and addressed before any institution could attempt to adopt ICT (Fisser, 2001).

This paper attempts to contribute to the literature on attitudes of students to and the accessibility of, the distance learning services provided at UNZA.

## Methodology

The survey design was chosen because the purpose of the study was to solicit information on the status of infrastructure and the attitudes of students towards the usage of ICT. The major type of information that was collected was descriptive. According to Borg and Gall (2003), the survey research is the best for collecting this type of information. A questionnaire was sent to a randomly selected sample of distance students. Out of the 1155 students that were enrolled in 1995, a sample of 393 or 34% of the students was selected. The enrolment list was used as the sampling frame, and Microsoft Excel random selection facility was used to select the sample.

The questionnaire was peer reviewed for validity. Items in the questionnaire were also subjected to the SPSS reliability test, and the cronbach-alpha was: 0.89 on the variables of "willingness to use ICT" and the "students' judgement of appropriateness of the ICTs"; 0.91 on the variable "attitudes towards ICT."

The data collection was undertaken during the residential school of 2005, that is, between August and September 2005, when all the distance education students were at the main campus of the University of Zambia. Out of the 393 sampled students that were given the questionnaire, 290 copies were correctly filled and returned. This represents 73.79 per cent response rate.

## Findings

The findings are hereby presented in terms of the factors that were researched on attitudes of

students, access to ICT, requisite infrastructure and skill to use the ICTs.

### Characteristics of the Respondents

Most of the respondents came from the School of Education comprising 73 per cent of the students. The School of Humanities and Social Sciences (HSS) had 27 per cent of the students. Most of the students (61 per cent) that responded were in their first year of study while 39 per cent were in their second year.

Students were asked to indicate their sex, ages and marital statuses. It was found that 59 per cent of the students were male while 41 per cent were female. In terms of age, about 27.5 per cent were between 33 and 37 years old, 17.1 per cent were between 28 and 32 years old, 16.4 per cent were between 23 and 27 years old; and only 1.4 per cent was between 17 and 22 years old.

As for marital status, there were more female students than male students who were single (26 per cent of the females and 16 per cent of the males), divorced (four per cent of the females and one per cent of the males) and widowed (10 per cent of the females and two per cent of the males). Among the married students, males outnumbered the females (59 per cent of the females and 81 per cent of the males).

The students resided in urban areas (32%), peri-urban (35%) and rural areas (33%). On the question of income, 23.6 per cent were earning between K901,000 and K1,350,000 salaries per month. Less than ten per cent (8.2 per cent) were earning less than K500,000 per month. Five per cent earned between K1,351,000 and K1,750,000 per month, about one per cent earned between K1,751,000 and K2,150,000 while one of the respondents or 0.4 per cent earned above K2,150,000 per month. In summary, the analysis showed that the majority of the students (85 per cent) were earning in the range of K500,000 to K1,350,000 monthly (The exchange rate at the time of data collection was at K4,000.00 to US\$1 dollar).

### Attitudes towards ICT

The respondents were asked to indicate whether they felt that they needed to use radios, television, telephone, fax, computers and Internet in the course



of their studies. Table 1 shows that the order of positive responses was computers, Internet, phone, television, radio and fax.

**Table 1: Rank Order of Needed ICT**

Equipment	Frequency	Percentage (%)
Computer	249	86
Internet	80	28
Phone	70	24
TV	67	23
Radio	66	23
Fax	57	20

In order to assess the value attached to the use of ICT, respondents were asked to indicate their willingness to pay for the use of the ICT for educational purpose. Table 2 shows the following order of positive responses: Internet, printers, computers, VCRs, TV radio cassette recorders and radio. In order to check whether the willingness to pay could be explained by access, a cross tabulation was conducted. It was only in the case of the radio and Internet where the chi-square tests showed that the willingness to pay was related with access to the ICT with *p* values of .036 and .003 respectively. The tests for other ICTs had *p* values of above .05.

**Table 2: Willingness to pay for Using ICT**

Equipment	Frequency	Percentage
Internet	227	78.3
Printers	226	78.2
Computers	219	75.4
VCR	148	51.2
TV	138	47.6
Radio cassette recorder	136	47.1
Radio	122	42.1

From the interviews, respondents explained that the ICTs were useful in the following ways:

- (a) Computers – for writing assignments, and for accessing the literature through the Internet and CD-ROMs.

- (b) Internet – for e-mail communication and searching for information that is relevant to their courses and assignments.
- (c) Telephone – for direct communication with lecturers, DDE and fellow students.
- (d) TV – for recorded lectures and update information from the University of Zambia.
- (e) Radio for urgent communication as this would reach many students. Some students said that they could use the radio to receive recorded lessons. As one observed: "Some topics could be aired through the radio."
- (f) Fax – only for direct communication related to important or urgent documents on a one to one basis.

When asked to mention some factors or reasons that may affect the usefulness of the ICTs, the students gave the following:

- (a) Radio – "It is not good because what is seen is better."
- (b) TV – "It is not available to some of us because there is no coverage where we live."
- (c) Internet – "It is not accessible to some of us in rural areas." "Some of us do not even know how to use the facility."

Since Internet received the highest frequency of willingness to pay, it was cross-tabulated with monthly income in order to see whether income would have a relationship with it. The analysis revealed that even among those students that were in the lowest income bracket of K500, 000 to K900, 000 monthly salaries (US\$152 to US\$273.76), 78 per cent were willing to pay for the Internet.

Respondents were asked whether ICTs could improve learning. About 88 per cent indicated that ICT could improve learning, very few students (two per cent) did not agree, whereas 10% did not know. The order in which the ICTs were viewed to be able to improve learning by the respondents was: audiovisual materials (94.5%), radio (87.45%) and television (85.75 %).

Students were asked to select as many options as applicable to indicate their preferred formats of course materials. When asked to indicate their preferred formats for course materials, 59.5 per cent of the students chose print, 35.4 per cent chose audio,



60 per cent chose diskettes, 20.4 per cent chose the web and 14.5 per cent chose CD-ROMs. Table 3 shows the opinions of the respondents towards the various formats of course materials.

The opinions of the respondents on these formats could be explained by the level of access to the ICT that they would need, in order to utilise the different formats of the materials. The cross tabulations and chi-square tests showed that there were significant relationships between access and the preferred formats. From the interviews with the respondents, it was found that the major reason against each of the formats that required equipment was lack of access to the required equipment.

**Table 3: Students' Opinions on the Preferred Formats of Course Materials**

Material	Frequency	Percentage
Print	174	59.5
Audio	101	35.0
Diskette	62	21.4
Web	59	20.4
CD-ROM	42	14.5

Students were asked to indicate the ICTs they would like to use, in order to interact with fellow students, the responses are shown in table 4. The order of preference was telephone, E-mail, Internet, TV, radio and fax.

**Table 4: Interaction with Fellow Students**

Equipment	Frequency	Percentage
Telephone	177	61
E-Mail	136	47
Internet	119	41
TV	93	32
Radio	87	30
Fax	72	25

On the question of how the students would like to communicate with lecturers, some of the sentiments were:

"E-mail is better because one can tell that if the lecturer has received the query and will be able to respond; it is faster, quicker and documents would not be lost."

"I find e-mail more convenient with rapid response while phone calls provide feedback at once unlike snail mail."

During interviews, some students indicated that some course materials could be put on the Internet and some lessons recorded on both audio and video formats. However, there was a dissenting view that said:

"Internet and phones are expensive. To me, if it replaced anything it would mean a great cost for me and already I pay a lot."

There were some anxieties that ICT would do away with residential school; hence, remarks like:

"No it cannot replace any of the ways of giving academic support; it cannot have the impact. We need to see the lecturers. The physical touch is important; we need to be able to ask questions."

"Internet removes the personal touch in contacts; it is important to have physical contact with lecturers, and ICT may not be good for asking some questions."

#### **Factors that could affect the Use of the ICTs**

Regarding access to libraries, other than during residential school, 75 per cent of the students had access to library services, while 25 per cent did not. Interviews revealed that some students lived in areas that did not have libraries.

On electricity in the houses they lived, 86 per cent of the students had electricity where they lived, whereas 14 per cent did not have. With regard to telephone services, (58 per cent) did not have telephone services, while 42 per cent claimed that they had the services.

Table 5 shows the relative level of access to the different ICT in terms of the frequencies of the number of respondents who agreed that each ICT was accessible. Access to the Internet was ranked least.

To test whether distance could explain the access to the Internet, chi-square test was employed, and, revealed that there was a strong relationship between distance to the point of access and the responses on whether the students had access to the Internet. The chi-square test gave a result value of 46.265 at 4 degrees of freedom and 0.0



significance (p) value. Since this significance value was less than 0.05, the null hypothesis (that there is no relationship between the two variables, distance and access) was rejected in favour of the alternative hypothesis that there "distance to the points of access" was related to "access to the Internet".

**Table 5: Students' Access to ICT**

Facility	Access	%
Radio set	284	98
Radio Cassette Recorder	278	96
TV	273 *	94
VCR	229	79
Computer	183	63
Printer	145	50
Access to internet	99	34

\* One student indicated access to DSTV

The interviews revealed that students considered cost as an additional factor to distance in hindering their access to the Internet. This seems to be the plausible explanation for those that were within a radius of 5 km and yet said they did not have access to the Internet.

#### Students' Levels of Computer Skills

Literature has shown that the computer is becoming the major type of ICT for studying and communication. It was, therefore, found necessary to assess the levels of computer skills among the students. It was found that 32 per cent of the students had skills in word-processing, 25 per cent in database searching and 20 per cent in e-mail usage. But 38.6 per cents of the students had never used word-processing, 36.6 per cent had not done online database searching, and 36 per cent had not used E-mail services.

#### Conclusion

As major beneficiaries, students had positive attitudes towards the non-print (ICT based) formats of course materials. They saw ICTs as necessary in the course of their studies because they believed that the ICTs could improve learning. They indicated willingness to pay for the Internet and other ICTs, because they were convinced that these were necessary for their

studies. However, the students said that they would not use the Internet as a sole source of content (course materials) unless access to the ICTs was guaranteed to them.

Since print materials were most likely to remain the main format of content for years to come, there was need to complement them with other formats such as audiovisual, audio, multimedia CD-ROMs or Digital Versatile Discs (DVDs) and the Internet could be accessed. Using a combination of formats would be in line with the suggestion made by Peters (2002) that the benefit of a combination of media in a dual mode of distance education was that students would have latitude of choice.

The study found that there were constraints to the use of ICTs. One of the constraints was infrastructure. Some students lived in areas that were not serviced with utilities that are necessary for the utilisation of the ICTs. The utilities include electricity, telephones and Internet connectivity. The other constraints were lack of access to the ICTs and skill to use the ICTs. The study revealed that only 44 per cent of the students had access to the Internet. The rest did not have access to the Internet. Therefore, the majority would not be able to access the web-based course materials, due to cost and distances to Internet access points. Some students did not have adequate access to ICTs. They also did not have adequate skill to use the ICTs.

#### Recommendations

The University of Zambia should, therefore, endeavour to provide access to ICTs using the following possibilities:

1. Intervene on behalf of the students, so that Internet service providers would provide student rates for internet accounts.
2. Enter into agreements with institutions like the Ministry of Education 's teachers' resource centres, so that the students would use the centres.
3. Equip the regional university centres with all the ICTs including high broadband Internet connectivity for the students to access the Internet.
4. The cost of using the ICTs could be shared with the students by including it in the tuition and or laboratory fees. For purposes of sustainability,



the University of Zambia would need to include the cost of ICTs in the fees. However, in order not to make the fees too high and, therefore unaffordable to the students, the University would need to provide budgetary allocation for the ICTs and their maintenance.

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# An Analysis of Ghana Library Journal: A Bibliometric Study

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## Abstract

*This paper presents the results of an analysis of articles published in the Ghana Library Journal over a seven-year period from 2000 to 2006. The majority of the items cited were journals (44.5%), followed by books (32.5%), and reports (9.4%). Current sources of information were about 62.9% of the journals and 48.8% of the books appearing in the reference lists were published in 1990 or later. Only four of the top twenty-two journals cited frequently were of African origin, the rest were European or US-based. The subject area most researched was academic libraries. Majority of the authors were from universities. The journal did not attract many authors from outside Ghana. Recommendations are made on how the journal could attract authors from outside Ghana.*

## Introduction

Koehler et. al (2000), quoting several authors, are of the view that articles published in scholarly journals, including library and information sciences, reflect changes in the interests and concerns of their authors' constituencies, and the discipline. These changes can be documented through bibliometric analyses of journal content. Bibliometrics is a quantitative

assessment of man's cultural progress, including science and technology as may be revealed through bibliographic data. Bibliographic data are those that can be collected, derived or deciphered from different parameters as can be assigned to a document (Jacobs, 2006).

The source of citation data is an important consideration for any study that intends to analyse citation patterns. Some studies use researchers' publications as their source data. In a study of the interdisciplinary nature of forestry research, Kesley and Diamond (2003) used faculty publications from selected universities as their source of citations. Similarly, Lascar and Mendelsohn (2001) used faculty publications as the source data for a bibliometric analysis of the structural biology literature. Haycock (2004) used citations generated by dissertations as the source data in a study designed to detect how graduate students use the literature. Sam and Tackie (2007) also conducted citation analysis of dissertations accepted by the Department of Information Studies at the University of Ghana from 1998 to 2004.

According to Huang, et al. (2006), bibliometric data have been used to describe and evaluate countries, universities, research institutes, journals, specific research topics and specific disciplines. They have also been used to identify factors associated with research performance (Sommer, 2005). When properly used, bibliometrics can also contribute greatly to collection development activities of various libraries (Fosu and Alemna, 2002).

In the view of Christine and Jonathan (2002), one of the best known bibliometric approaches, known as citation analysis, has become more sophisticated, and the advent of networked information technologies has led to quantitative and qualitative advances in other bibliometric methods.



Bibliometrics thus enables researchers/librarians to contribute to detailed analysis of research activities within their institutions. This is achieved by searching bibliographic databases and subsequent ranking of individual papers retrieved from scientific sub fields, and citation analysis including co-citation analysis and bibliographic coupling (Osareh, 1996).

Library and information science research in Ghana has been going on since 1950s. Fosu and Alemna (2002) undertook a comprehensive study on the literature of librarianship in Ghana. The study analysed the structure and bibliographic control of the literature of librarianship in Ghana during the period 1950-2000. Areas covered included: number of publications by decade, format of publications, the major subjects covered, and the most popular journals of publication and the extent of usage of non-library science journals. The findings of that study among others indicated that the *Ghana Library Journal* contributed immensely to library literature in Ghana.

It is for this reason that the current study focuses on the *Ghana Library Journal* in analysing the citation patterns of library and information science research on Ghana with reference to articles published in the *Ghana Library Journal*. This journal was chosen as the single source journal for the bibliometric study because it is the only prominent library and information science journal in Ghana, which publishes peer-reviewed articles of original research pertaining to the practice and research in librarianship and information science in Ghana.

Thus, the paper examined library and information science research in Ghana from 2000 to 2006 by conducting a bibliometric analysis of papers published in the *Ghana Library Journal*. It describes the number of articles published, the material type cited, the number of references listed, the subject coverage, the type of authorship, authorship affiliation, and whether the articles published were written through local or international collaboration. It is the hope of the author that this paper will provide more insight into the current state of library and information science research in Ghana,

and provide some basis for future projections.

## Methodology

The methodology adopted in analysing the citation patterns in the *Ghana Library Journal* was similar to that used by Crawley-Low (2006) in her investigation of bibliometric analysis of the *American Journal of Veterinary Research* to produce a list of core veterinary medicine journals. According to Rochester (1995), there have been bibliometric studies of individual journals, for example a study of the first 24 volumes of *Journal of Education for Librarianship* published from 1960 to 1984. The articles published and their authors were examined, and also a bibliometric study made of the citations in those articles.

As noted earlier, the *Ghana Library Journal* was selected as the source of citation data in this study.

Over the seven-year period from 2000 to 2006, all articles and bibliographic references published in the *Ghana Library Journal* were examined. Data collected from the references included format (journal, book, conference proceedings, thesis/dissertations, newspaper, and report), date of publication, frequency of journals cited, currency of the journals and books cited, papers written through local or international collaboration. The analysis also took into consideration the subject coverage of the journal articles, the most popular journals cited, authors and their affiliations' and the extent of citation of non-library and information science journals. In all, there were forty-three (43) published papers and six hundred and eighteen (618) bibliographic references in the *Ghana Library Journal* from 2000 to 2006.

## Findings

Over the seven-year period from 2000 to 2006, six hundred and eighteen (618) items were cited in the articles published in the *Ghana Library Journal* (Table 1).



**Table 1: Formats of Citations in the Ghana Library Journal, 2000-2006**

Format	Number of times cited	Percentage
Journal	275	44.5
Book	201	32.5
Report	58	9.4
Conference proceeding	32	5.2
Internet	22	3.6
Newspaper	18	2.9
Thesis/Dissertation	12	1.9
<b>Total</b>	<b>618</b>	<b>100.0</b>

Most of the items cited were journal articles (44.5%), with books accounting for 32.5% followed by reports (9.4%). This proportion of the distribution by format remained relatively constant when each year was examined individually (Table 2).

**Table 2: Distribution of Formats of Citations on an Annual basis from 2000-2006**

Format	2000	2001	2002	2003	2004	2005	2006	Total	%
Journal	40	37	29	21	61	14	73	275	44.5
Book	19	38	8	32	61	13	30	201	32.5
Report	11	9	9	7	10	3	9	58	9.4
Conference	3	7	3	1	1	6	11	32	5.2
Internet	-	2	3	3	7	2	5	22	3.6
Newspaper	3	-	5	4	5	1	1	18	2.9
Thesis/dissertation	-	-	3	2	-	1	6	12	1.9
<b>Total</b>	<b>76</b>	<b>93</b>	<b>60</b>	<b>70</b>	<b>145</b>	<b>40</b>	<b>134</b>	<b>618</b>	<b>100.0</b>

**Table 3: Number of Citations of Journals and Books per Decade**

Decade	Journals	Percentage	Books	Percentage
Pre - 1970	10	3.6	23	11.4
1970-1979	30	10.9	31	15.4
1980-1989	62	22.5	49	24.4
1990-1999	154	56.0	83	41.3
2000	19	6.9	15	7.5
<b>Total</b>	<b>275</b>	<b>99.9</b>	<b>201</b>	<b>100.0</b>

Table 3 shows the distribution of cited journals and books by decade. Further analysis of the material type indicated that there were two hundred and seventy five (275) journal citations. A breakdown of the journals cited according to titles indicated that twenty-two (22) of the journals were cited four or more times and the journals in this category generated one hundred and forty-eight (143) citations representing 52% of the total. Table 4 shows the journals that were cited four or more times.

2005	6 (14.0%)
2003	7 (13.7%)
2004	9 (20.9%)
2002	4 (7.8%)
2000	8 (12.7%)
<b>Total</b>	<b>43 (100.0%)</b>



**Table 4: Top 22 Journals Cited**

Rank	Journal	Number of Citations
1	African Journal of Library, Archives and Information Science	13
1	College and Research Libraries News	13
2	Library Management	11
3	International Information and Library Review	10
3	Library Trends	10
4	Journal of Academic Librarianship	7
4	Special Libraries	7
4	Aslib Proceedings	7
5	Harvard Business Review	6
5	Library Review	6
5	Ghana Library Journal	6
6	Nigerian Library and Information Science Review	5
6	Journal of Documentation	5
6	International Information and Library Review	5
7	Wilson Library Bulletin	4
7	Journal of Information Science	4
7	Journal of Library Administration	4
7	Nigerian Libraries	4
7	Academy of Management Journal	4
7	Indigenous Knowledge and Development Monitor	4
7	International Nuclear Information System	4
7	IAEA Bulletin	4

The study also investigated how many of the top 22 journals cited four or more times were library and information science journals or journals in other disciplines. As indicated in table 4, seventeen (17) of the journals were library science journals with five being non-library science journals. Only four journals of the journals are African origin, the remaining 18 being either European or USA-based. The *Ghana Library Journal* was one of the four African journals and it was cited six times. A total of forty-three (43)

**Table 5: Number of Publications and Authors per Year**

Year	Number of publications	Number of authors
2000	6 (14.0%)	6 (11.8%)
2001	5 (11.6%)	8 (15.7%)
2002	6 (14.0%)	8 (15.7%)
2003	7 (16.2%)	7 (13.7%)
2004	9 (20.9%)	10 (19.6%)
2005	4 (9.3%)	4 (7.8%)
2006	6 (14.0%)	8 (15.7%)
<b>Total</b>	<b>43 (100.0%)</b>	<b>51 (100.0%)</b>

articles were produced by fifty-one (51) authors over the period. As shown in table 5, the number of publications per issue ranged from four to nine with the authors ranging from four to ten.

Table 6 shows the geographical distribution of authorship for articles published between 2000 and 2006. Ghana, with forty-one (41) papers had the largest number of authored papers, which is expected for a Ghanaian journal. The other two papers came from Nigeria which, though on the low side, is encouraging due to the poor visibility of the journal. The forty-three (43) journal articles generated six hundred and eighteen (618) citations, averaging 14.4 citations per journal article.

In terms of gender of the 51 authors, majority were male (62.7%), while 37.3% were female. This is to be expected as an earlier study by Alemna (1991) showed that there were more male than female librarians in Ghana. As indicated earlier, because some individuals authored more than one article, they were counted more than once.

A total of fifty-one (51) names of authors appeared on the articles in journal. Thirty-four (34)



**Table 6: Geographical Distribution of Authorship and Citations**

Country	No. of papers*	% TP	No. of citations*	% TC
Ghana	41	95.3	538	87.1
Nigeria	2	4.7	80	12.9
Total papers/Total citations	43		618	

\* Total papers (TP) are the total number of papers in the study. Total citations (TC) are the total number of citations in the study.

of them appeared on only one article. Table 7 lists the top eight authors who published two or more articles. Eight authors contributed seventeen (17) articles representing 39.5% of the total. Of the eight authors, six were from universities, one was from a research institute and the other one was from a parastatal organisation. This is to be expected as there are more librarians in the academic and research institute libraries, and also the fact that they have to publish before they are promoted. Further analysis indicated that there was no international collaboration among the authors who published in the journal.

**Table 7: Top Eight Authors**

Author	Number of Articles
Clement Entsua-Mensah	3
A.W.K. Insaadoo	2
Angelina L. Armah	2
V. K. Fosu	2
I. K. Antwi	2
Ellis E. Badu	2
A.A. Alemna	2
Mary A. Arkorful	2
Total	17

Author affiliation was obtained from the addresses provided under the articles in the publications. The fifty one (51) authors were from fifteen organisations as indicated in table 8. The University of Ghana topped the list with seventeen (17) authors, followed by the CSIR-Institute for Scientific and Technological Information (CSIR-INSTI), and Kwame Nkrumah University of Science and Technology (KNUST) with 6 articles each. In

effect, three organisations contributed twenty-nine (29) authors, representing 67.4% of the total. It is also observed that universities accounted for 38 authors being 74.5%, while research institutes contributed 8 (15.7%), with the rest 5 (9.8%) being taken up by authors from parastatal organisations. Further analysis indicated that five organisations contributed four or more authors making a total of thirty-seven (37), representing 86.0%.

**Table 8: Author Affiliations**

Organisation	Number of Authors
University of Ghana	17
CSIR-Institute for Scientific and Technological Information	6
Kwame Nkrumah University of Science and Technology	6
University for Development Studies	4
University of Education, Winneba	4
University of Cape Coast	3
Serious Fraud Office	2
Obafemi Awolowo University	2
Ghana Education Service	1
CSIR-Animal Research Institute	1
Koforidua Polytechnic	1
Ashesi University College	1
Institute of Local Government Studies	1
University of Ibadan	1
Ghana Atomic Energy Commission	1

The subject categorisation of articles published in the *Ghana Library Journal*, according to table 9, shows that the major subjects of the articles published were academic libraries (16) and general librarianship (9). Others were technical services including collection development, cataloguing and



classification (3), special libraries (3), public libraries (3) and preservation (3).

Table 9: Major Subjects Covered

Subject	Frequency	Percentage
Academic Libraries	16	37.1
General Librarianship	9	20.9
Technical Services	3	7.0
Special Libraries	3	7.0
Public/Community Library	3	7.0
Preservation/Conservation	3	7.0
Publishing and Book Trade	2	4.7
Information Technology	2	4.7
School Libraries	1	2.3
Library Cooperation	1	2.3
Total	43	100.0

## Discussion

Analysis of the data collected for this study indicated that journals were the format cited by authors publishing in the *Ghana Library Journal*. This trend is consistent with other bibliometric studies. Fosu and Alemna (2002), Aina and Mabawonku (1997) and Alemna and Badu (1994) all came up with similar results in their studies. More than half (62.9%) of the cited journals were published in 1990 or earlier. Books and other material types were cited less frequently than journals in this study; however, currency continued to be important. Most of the cited books (48.8%) were published in 1990 or earlier.

The pattern of citation by format remained relatively constant over the seven-year period of the study, with journals as the most preferred format for the dissemination of research findings. A similar distribution of format was found in a study of veterinary science literature by Crawley-Low (2006). However, unlike the Crawley-Low study, which was over a 3-year period, the current study which was over a 7-year period showed consistency in the distribution of material type with journals being in the majority, with books following. The use of Internet resources was not significant, as it ranged from 2.2% to 5.0%. This finding is however, similar to an earlier work by Sam and Tackie (2007) which revealed that an increasing number of graduate students (118 or 5.3%) used online resources in their work.

It is significant to observe that though only 4 journals of African origin were among the top 22 journals cited by authors, the *African Journal of Library, Archives and Information Science* and *College and Research Libraries News* jointly came top with 13 citations. It is commendable that AJLAIS continues to be cited by African authors and also used significantly in disseminating library and information science research in Africa. However, the situation where fewer African journals are cited as against European and American journals is worrisome and needs to be looked at by African library associations and institutions. Earlier work by Alemna and Badu (1994) and Sam and Tackie (2007) came up with similar results. The lack of African journals and the inconsistency of publication schedules of those in print should be addressed.

The growing prominence of non-library journals should be pointed out, as some of the articles were of a multi-disciplinary nature, and it is reasonable for journals in such fields to be cited.

The results of the geographical distribution of authors demonstrate that the journal reflects the view of most Ghanaian librarians and information scientists, with only two articles from one other country. This may be an indication that the journal is not well-known outside Ghana as a result of it not being indexed or abstracted in any of the well-known international indexing and abstracting services, and is therefore not attracting authors from other countries. It may also be as a result of the fact that though the publication frequency is annual, there is no indication of the month in which it is to be published. This lapse would probably discourage authors from outside the country.

Academic libraries were the subject area with the largest number of publications, almost twice as were published for librarianship in general. This result may be expected, as majority of the authors were from the university. However, one would have expected that the new and emerging technologies would be given some attention, but only two articles were published on information technology over the 7-year period. This is in spite of the growing importance of information technology in library and information science. The result is inconsistent with the work by Abdoulaye (2002) and Sam and Tackie (2007) which indicated information technology as the



most popular research area among graduate students. In an earlier work by Fosu and Alemna (2002) on library literature in Ghana, general librarianship came top followed by academic libraries.

The study indicated that of the top eight authors, 6 (75%) out of the total came from universities, with one each from research institute (12.5%) and parastatal-organisation (12.5%). This is significant and consistent with the 'publish or perish' syndrome associated with academic and research institutes.

## Conclusion and Recommendations

The number of published articles on library and information science research in Ghana as revealed by the study is limited, but may not reflect the total research published over the seven-year period, as what the study came out with reflects the output of researchers who chose to publish their research results in the *Ghana Library Journal*. The fact that it is also not indexed or abstracted in any international indexing and abstracting journal may account for the small number of articles published in it. Most of the articles in the study originate from Ghana, and are authored by single persons. The publication rate of six articles per year is not encouraging for a country with a growing number of library and information science professionals.

The *Ghana Library Journal* is not attracting a pool of authors from outside Ghana; and this may well be that the journal is not yet mature, and that as it matures; the author base will broaden. However, the issue of irregular and infrequent publication schedule should be addressed. The journal may achieve maturity if it improves its frequency, publication schedules and broadens its author distribution. Given that science, and by inference, information science, is a borderless and transnational activity, journals should reflect that global character in their author distribution (Koehler et al., 2000). For the *Ghana Library Journal* to attract authors from outside Ghana and to give it international recognition, it should indicate which month(s) it is published and the publishers should adhere to it. It should also be published regularly and frequently. This gives confidence to potential authors and may attract a lot more of them both locally and abroad to publish in it to increase the number of articles and also to attract international indexing and abstracting services. With

the Editorial Board being broadened to include people from Nigeria and Tanzania starting from the 2006 edition, it is expected to attract more authors from outside Ghana.

The results of the study underscore the significance of journals as an important material type, followed by books in the citation patterns of authors in library and information science. It also indicates that authors are more inclined to cite current sources, and they should therefore be provided with more up-to-date sources of information, both in journal and book format. The ranked list of journals as indicated by the study should be a useful guide for collection development librarians in selecting and acquiring journals for librarians and information scientists in Ghana.

The use of non-library science journals as revealed by the study is also significant and collection development librarians should provide their clients the supporting journals that they require in their work.

The research trends revealed by the study indicated more authors from universities and research institutes publishing and focusing also on academic libraries. This may be an over-flogged area, and attempts should be made to encourage research in the emerging areas of study such as information technology.

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JOEL SAM



# Disaster Preparedness in Information Centres in Gaborone, Botswana

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## Abstract

*This study aimed to determine how information centres in Gaborone, Botswana are prepared for disasters. The information centres studied were the Botswana National Library Services, the Botswana National Archives and Records Services, academic libraries, special libraries and records management units in various government ministries and departments. Questionnaire, interviews and personal observations were the main instruments of data collection. The study revealed that information centres in Botswana were ill-prepared for disasters. They lacked disaster preparedness plans, had inadequate policies and procedures, ill-equipped staff on disaster management, and absence of conservation and restoration facilities. The study recommends the formulation of specific disaster plans for all information centres, the training of information centre staff on disaster preparedness, and equipping of information centres with appropriate tools and resources.*

## Introduction

All over the world, libraries and archival institutions have the responsibility to acquire, organise and preserve information materials. These materials are meant to be a source of knowledge, pleasure and assistance for generations to come (Akussah and Fosu, 2001). Both libraries and archives preserve valuable information resources and provide essential services to the public in general. These information centres need to protect their information resources from unauthorised access, disclosure, deletion, alteration, and destruction. Reviewed literature suggests that disasters are not just threats to information materials, but, as a matter of fact, have resulted in many information centres throughout the world losing their valuable holdings, due to disasters. England and Evans (1988) state that in 1814, the Library of Congress lost some valuable information resources when the Capitol Building in Washington was burnt down by the British. The investigations that were conducted following the incidence revealed that due precaution and diligence were not exercised to prevent the destruction and loss of collections. In November, 1966, floods in Florence, Italy, resulted in severe damage to over two million rare and irreplaceable volumes of collections (England and Evans, 1988). The disasters became the impetus for planning in libraries and other information centres. Lessons learnt from the 1966 Florence floods have resulted in disaster programmes being put in place by many information centres (McCracken, 1995).

In Africa, the incidence of disasters is well captured by Alegbeleye (1993) who states that a number of disasters have struck information centres,



and a lot of damage has been done to records, books and artifacts. He observes that in 1988, records were destroyed when a record centre was burnt down by students in Sierra Leone. In another incident, the Nigerian Institute of Policy and Strategic Studies Library experienced electrical failure resulting in a fire which destroyed many books, artefacts, and other monuments in 1987. In Kenya, the then Colonial Secretary Office's containing early colonial records was gutted down by fire in 1939, resulting in considerable loss of valuable records.

A survey of disaster management in academic libraries in Ghana carried out by Akussah and Fosu (2001) revealed that there were varying levels of disaster preparedness by libraries. Their study further revealed that libraries were characterised by lack of disaster plans, inadequate human and material resources, and lack of conservation workshops to restore damaged information materials.

Disasters may be categorised into two broad groups: natural and man-made disasters. Natural disasters include floods, earthquakes and storms, whereas man-made disasters include arson, armed conflict, poor storage and environmental conditions, fire. Inadequate security which could result in break-ins and theft. Information institutions ought to prepare for all types of disasters and security problems (Smith, 1992). Information centres need to recognise the vulnerability of their collections to loss, since information resources are not only susceptible to disasters, but are also threatened by theft and vandalism.

Ajebomogun (2004) defines library security as any strategically designed system which aims at protecting library collections (books and non-books) against unauthorised removals. He states that library security also involves safety of users and books against fire outbreak, insects, flood, and the protection of the premises against intruders. Ajebomogun's definition of library security is not any in way different from that of Ngulube (2003), who argues that security and protection of collections include all activities that institutions engage in to discourage crime and prevent damage to holdings. Security measures should not be undermined because missing or damaged materials cannot be accessed by users. Information centres should not therefore perceive security measures as being unnecessary but

as an essential aspect of their functions (Brown, 1999). Antwi (1989) quoting Hanff (1984) gives two of the reasons why security plans are often overlooked by information centres. These are: (a) Lack of awareness of the significance of library theft and its impact on the integrity of library collections and service and (b) Inadequate means of monitoring loss rate.

In 1985, a study on book theft conducted at Abubakar Tafawa Balewa University, Bauchi, Nigeria, revealed that the problems faced by libraries were three-dimensional. The study showed that collections may be stolen by students, library staff, and unauthorised external users. That same year, a search was conducted and twenty-five stolen books were discovered from students, library assistants, and external users. This implies that any security measure put in place by an information centre should apply to everyone including its members of staff. Considering the value, uniqueness and cost of some of the collections, information institutions need to seriously consider security as a management responsibility (Antwi, 1989).

### Information Centres in Botswana

Botswana has different types of information centres such as public libraries, ministry and departmental libraries, a national archives office, and records management units located in various government ministries and departments. Botswana National Library Services (hereafter referred to as BNLS) was established through an Act of Parliament passed on 29 September 1967; however, it only became functional in 1968. BNLS has its headquarters in Gaborone. The headquarters is responsible for the overall planning, and supervision of the library services throughout Botswana. It administers funds, books, equipment, furniture and stores. BNLS is also responsible for the development of an efficient system of information storage and retrieval. It provides a nation-wide library and information service, in order to support and promote formal and informal education, and to facilitate recreation and cultural enrichment. It also promotes the preservation, conservation and usage of the national documented cultural heritage by developing a national bibliographic control system and service.



In an attempt to carry out the above responsibilities, the BNLS provides the following services:

public library services, educational library services, special library services and library services for the disabled. BNLS has been experiencing accommodation problems for sometime, and as a result, the library is housed in different buildings in Gaborone. Despite these shortcomings, BNLS has over the years been able to establish a reasonable number of public and or community libraries across the country. BNLS has also been able to introduce reading rooms for some remote and rural communities, and it also provides a mobile library service.

The country has a number of tertiary institutions which have academic libraries specifically geared to meeting the needs of their staff and students. There also exists a Botswana National Archives and Records Services Department which was first established in 1966 following the transfer of the capital from Mafikeng in South Africa to Gaborone. The department is responsible for managing public records selected for permanent preservation, as well as public records management units (RMUs) or registries located in various ministries and departments countrywide.

### Disaster Management in Botswana

In the past, disasters have struck different institutions in Botswana. The old Immigration Department building near the railway line in Gaborone was gutted by fire in the 90s, resulting in many records being burnt. In order to fight disasters in Botswana, the Government formulated a national policy on disaster management, which was approved in 1996 through Presidential Directive No. CAB 27/96. In 1998, the National Disaster Management Office (NDMO), a unit under the Development Division in the Office of the President, was established. NDMO has three divisions which are: Information, Education and Awareness, Operations Control, and Coordination and Logistics. The NDMO coordinates its activities through the National Committee on Disaster Management, the National Disaster Management Technical Committee and District Disaster Management Committee. The goals of NDMO are:

- (i) To protect life and the environment and prevent loss of property from all types of hazards (both natural and human-made) through a risk prevention management approach.
- (ii) To strengthen inter-agency coordination and create an effective joint disaster management capacity with stakeholders.
- (iii) To determine types of disasters, frequencies of their recurrences, and their impact magnitude.

The NDMO is responsible for formulating national disaster management systems and coordinating disaster management activities through:

- (i) Establishing and maintaining a comprehensive disaster management information system.
- (ii) Proving early warning on approaching disaster and predictions of its possible effects on the country, population and people's livelihoods.
- (iii) Formulating standard operating procedures for emergency response and management.
- (iv) Holding in readiness a series of preparedness or contingency plans, (for specific hazards such as floods, veldt fires etc.) for implementation when the circumstances and requirements are known.
- (v) Maintaining strategic reserves of essential commodities and equipment at the national and district levels with which to mount immediate disaster relief, while further national and international assistance is being mobilised.
- (vi) Maintaining up-to-date inventory of all available resources.
- (vii) Formulating and implementing, in partnership with training and academic institutions, programmes in disaster management education, training and public awareness, including training assessment, for all levels of government, community and non-governmental organisations, as part of capacity building and disaster preparedness.

The NDMO only deals with disasters that affect the nation or communities, not single departments or individuals. It is only when districts and/ or village disaster management committees cannot cope with disasters that NDMO mobilises resources nationally and internationally, if there is need to do so. NDMO



also educates ministries/departments, stakeholders and the public in general to prevent, mitigate and respond to disasters. It helps ministries/departments to develop disaster management plans by providing technical expertise. In order to facilitate the integration of disaster management into project planning and management, NDMO has identified disaster management focal persons in all ministries. These people are expected to ensure that their ministries or departments incorporate disaster management in their daily activities.

The Botswana's National Policy on Disaster Management recognises that Botswana is prone to a number of disasters. Among these disasters are drought, floods, severe weather (hail, lightning strikes), veldt fires, epidemics, pest infestations, industrial accidents, and chemical spills. In view of the dangers posed by these disasters, the national policy calls for both government and non-governmental organisations to develop their own internal disaster plans. Botswana also has a national disaster management plan which is still in a draft form awaiting stakeholders' contributions. The draft plan covers the following aspects:

1. Roles and responsibilities of various sectors;
2. Organisational structures of the disaster management committees in place (these committees include national disaster management committees, district national disaster management committees and village disaster management committees);
3. Functions of the different disaster committees and ministries and departments;
4. Emergency operations centres (these are places where role players congregate to receive reports from different districts. This section of the draft plan explains where the centre should be set, who should man the centre, and how long it should operate);
5. Definition of terms.

Since its inception, the NDMO has dealt with a number of national disasters, notably the 1999-2000 floods. The widespread heavy rains affected twenty-three administrative districts/cities/towns/villages causing extensive damage to infrastructure, public and private assets, and the environment and disrupted normal public life (NDMO, 2000). In the past, disasters at the district or local level have been dealt

with by district disaster management committees, which are headed by district commissioners. The 2000 floods proved that the country's level of preparedness was wanting and inadequate. For instance, the registry and library of the Mochudi Education Centre was affected by the said floods. An officer from BNARS, Mr. Wanjau, did visit the institution to assist in salvaging records. The need for vigilance and close collaboration among government institutions, the private sector, the United Nations bodies and the international community was fully demonstrated.

### Statement of the Problem

Botswana, like many other countries in the world, is not immune to disasters. Thus, there is a need for information centres to put in place measures that would ensure the protection of the national heritage of the country or salvage that which would have been left after a disaster has hit. According to Eastwood (1989), archives and records are not only arsenals of history, but, of accountability. There is, therefore, a dire need to have them protected and nurtured like all other vital resources. Ngulube (2003) quoted Shuman as saying "a book is a fragile creature, it suffers the wear of time, it fears rodents, the elements and clumsy hand... So, the librarian protects the books not only against mankind, but also against nature, and devotes his life to this war with the forces of oblivion." It cannot be overstated that records are unique and irreplaceable, while books are expensive to acquire and as such, there is a need to protect them from disasters.

In Botswana, the status of information centres with regard to disaster preparedness and security consciousness is not known. This lack of knowledge is of great concern, and made this study very necessary. There is a need to assess the current practices in disaster and security management in Botswana's libraries, archives and other information centres, so as to determine the extent to which these information institutions are prepared for disasters and security problems. This study, therefore, aims at establishing whether information centres in Botswana have disaster preparedness plans and security measures in place, and whether these plans are part of the National Disaster Plan, as failure to have such plans may result in total loss of information resources



or a haphazard approach to managing disasters when they arise.

### Objectives of the Study

The main objective of this study was to determine the extent to which information centres in Botswana are prepared for disasters and security problems. Specifically, this study sought to:

- (i) find out what disaster and security plans, policies and procedures are in place among libraries, archives and other information centres in Gaborone, Botswana.
- (ii) determine the extent to which employees of these information centres know about disaster preparedness and security.
- (iii) find out if these information centres consider themselves ready for disaster and protection of their resources.

### Methodology

The population included the following kinds of information centres: archives, public libraries, academic libraries, special libraries and records management units (registries) in various ministries, departments and parastatal organisations. There is only one archival institution in Botswana, which is based in Gaborone, so, it automatically formed part of the population. Since the researchers focused on information centres in Gaborone, there is only one public library which was included in the population. The academic libraries studied included the University of Botswana Library, the Tlokweng College of Education Library, the Botswana Institute of Administration and Commerce (BIAC) Library, the Institute of Development Management (IDM) Library, the Institute of Health Sciences (IHS) Library, the Botswana Technology Centre (BOTEC) Library, the Auto Trades Training Centre Library, the Madirelo Training Centre Library and Gaborone Technical College (GTC) Library. The following parastatal organisations included Botswana Power Corporation (BPC), Botswana Telecommunication Corporation (BTC), Botswana Housing Corporation (BHC), Water Utilities and the Bank of Botswana. The parastatals above were chosen based on the assumption that their information centres are well funded and therefore they should be better prepared for disasters and have strict security measures in

place. They were also chosen because they have employed professional records managers (with the exception of BPC and BHC) and their records and other information resources would be well managed.

As for records management units in the public institutions, the researchers concentrated on those departments/ministries with professional records managers because these officers are expected to spearhead the development of records management programmes in their respective units. The departments/ministries which had records managers during the period of the study included the Ministry of Information, Science and Technology, the Ministry of Health, the Ministry of Local Government, the Ministry of Foreign Affairs, the Directorate of Public Service Management, Teaching Service Management, Attorney-General's Chambers, Office of the President, and the Department of Information Services.

The study covered special libraries in the following governmental departments: Attorney General Chambers, Central Statistics Office, Department of Corruption and Economic Crime, Department of Youth and Culture, Department of Curriculum Development and Evaluation, Department of Geological Survey, Department of Information Services, Department of Mines, Meteorological Services Department, Elections Office, Ministry of Agriculture (Headquarters), Ministry of Local Government, Auditor General, Ministry of Finance and Development Planning, Department of Vocational Education and Training Centre, Department of Water Affairs, Department of Wildlife and National Parks, National Assembly, National Museum and Art Gallery, Veterinary Research Laboratory, Women's Affairs, Princes Marina Hospital, National Reference Library, Botswana Television Station, Ministry of Foreign Affairs and International Cooperation and National Aids Coordinating Agency.

It should be noted that, although some libraries were classified by BNLS as special libraries, the researchers classified them as academic libraries because they are located within the training institutions concerned. These libraries include Botswana Institute of Administration and Accountancy, Gaborone Technical College, Madirelo Training Centre and Auto Trades Training College. The researchers did not see the need to sample the



population, since it was considered to be of a reasonable size.

The observation method was used to determine the facilities and equipment that information centres had as part of their disaster preparedness and security strategy. The specific aspects that were observed, included fire alarms, fire extinguishers, smoke detectors and conservation laboratory equipment.

Structured interviews were carried out with respondents in order to clarify issues not addressed clearly in the questionnaire. Interview guides were developed after copies of questionnaire distributed were collected and data analysed.

## Findings and Discussion

### Availability of Disaster Preparedness Plans

The first objective of this study was to find out what disaster and security plans, policies and procedures were in place among libraries, archives and other information centres in Gaborone, Botswana. The research showed that the majority (94%) of the information centres had no disaster preparedness plans, despite the fact that they were very much aware of the likely disasters that can affect them. Only 6% of the respondents had draft disaster plans awaiting management approval. The institutions with draft disaster preparedness plans were BNLS and BNARS. Two other institutions, that is, the University of Botswana Library and Water Utilities Corporation, were in the process of developing similar plans. Water Utilities Corporation also did indicate that it subscribes to the National Occupational Safety Association (NOSA) rules in South Africa, an agency offering auditing, consulting and training services in environmental, safety and occupational health risk management (NOSA 2007).

The fact that most of the information centres did not have plans to protect their holdings or collections from disasters means that information materials are at risk. The reasons advanced for the absence of disaster plans in information centres include lack of staff, lack of resources and expertise. These problems could easily be addressed through combined efforts by these information centres by pooling their scarce resources together. Information centres could also bring their expertise together to develop disaster plans which are comprehensive and

easy to implement. Information centres without the expertise on disaster preparedness or conservators should seek help from the Botswana National Archives and Records Services, since it has trained personnel, and it is the main custodian of all public records of continuing value.

The absence of disaster preparedness plans also means that these information centres cannot guarantee accessibility and usability of the information materials they house in the event of a disaster. This basically calls for librarians and records staff to go beyond their professions, to assume the roles of conservationists if they are to protect information materials efficiently and effectively. A written plan is essential because during disasters officers may not be able to absorb oral information either due to fear or stress. These information centres should demonstrate their disaster preparedness and security awareness through disaster preparedness and security plans, which should be part of the national policies. These are to be reviewed and updated regularly.

There is also a need to establish a national body, a national disaster committee, for information centres that will deal with disasters that are of concern to information centres. This committee would help with training, development of plans, disaster preparedness guidelines and procedures, and help monitor their implementation. Representatives from various information centres would sit on the committee. These should be people who have authority in their organisations, so that whatever decisions the committee makes, the representatives could influence their implementation. The NDMO should be represented in this committee, and should play an advisory role through a representative in the committee.

### Staff Training in Disaster Management

The second objective of this study was to determine the extent to which employees working in these information centres know about disaster preparedness and security. The study discovered that all the information centres had not trained their staff on disaster preparedness. Staff training is a crucial aspect of disaster preparedness plan. Since these information centres did not have operational disaster plans, they did not have anything to guide them on



training. Those information centres with draft disaster plans were not in any way better prepared for disasters. The plan which has not been implemented and without trained staff would be ineffective in the event of a disaster. There is no use to have all the fire fighting facilities without the staff knowing how to use them. In the event of fire, they would not know what to do, instead of being panic. Training of staff in fire awareness, sounding the alarm, evacuation procedures and in the use of fire extinguishing equipment is also very important. Although many aspects of security may require common sense, policy and practice needs to be regularly revised, and staff reminded that they must always remain vigilant to the possibility of theft (McCree, 2000). Although many aspects of security may require common sense, policy and practice needs to be regularly revised, and staff reminded that they must always remain vigilant to the possibility of theft (McCree, 2000). Issues such as the way to address users suspected of theft, or legal matters surrounding theft are all areas that require training.

#### **Disasters Preparedness by Information Centres in Botswana**

The other aspect this study sought to determine the extent to which these information centres were prepared for disasters. This aspect was studied through studying various aspects relating to disasters experienced by information centres, risks to information centres, protection of vital records, conservation units, restoration, etc. The findings regarding each of these aspects are presented below.

#### **Past Disaster Experiences**

The study sought to determine the types of disasters information centres in Botswana have experienced in the past. The study revealed that all the information centres which had experienced disasters experienced floods resulting from poor drainage, air condition systems and burst water pipes or leakages. As some of the information centres had been struck by fire, respondents considered it the most possible disaster that can befall them. It is crucial that information centres in Botswana guard against disasters, because if they lack the resources and the expertise to develop and implement disaster plans, then they definitely lack the expertise to deal with disasters

and handle or treat information materials damaged by disasters.

#### **Disasters Considered Threats to Information Centres in Botswana**

One of the objectives of this study was to identify the major threats to information centres in Botswana. The study revealed that many information centres perceived fire as the most likely disaster that could destroy their information materials. Floods were also considered to be a potential danger, while war, internal conflicts and earthquakes were not thought to be. The fact that earthquakes, war and internal conflicts were not perceived as threats to information centres may be attributed to the fact that Botswana has never experienced any serious earthquake, nor experienced war or serious internal conflicts. However, this should not be interpreted by information centres as a licence to sit back and not to develop disaster plans to protect their information materials.

#### **Protection of Vital Information Resources**

As regards identification of vital records by information centres, the study revealed that none of the information centres (100%) had identified and listed their vital information materials. Although BNARS indicated that it had not identified its vital information materials, but it microfilms and makes photocopies of information materials that are regularly used. Such materials may deteriorate due to poor handling or heavy use. It must, however, be clearly stated that although the National Archives microfilms and makes copies most of its valuable collections, no clear arrangements exist for the storage of the copied materials off-site. It is crucial that information centres identify their vital records so that their services would not come to a halt if they were to be struck by disasters. Libraries, especially academic libraries, should be in a position to establish skeletal libraries in the event of disasters.

#### **Conservation Units and Restoration of Information Materials**

As far as conservation and repair of information materials are concerned, the study revealed that the majority of information centres did not have conservation units or workshops, nor did they have conservators. The restoration of damaged



information materials was done in the information centres by unskilled staff. The study further established that there was only one qualified conservator in Botswana who is based at the Botswana National Archives and Records Services, where a small conservation workshop is in existence. This is a clear indication that information centres are ill-prepared for disasters. If information centres are struck by disasters, a lot of money will be needed to bring in experts from outside Botswana or send the information materials outside the country for repair. Even BNARS needs to train more conservators considering its national duty and the fact that the officer may decide to move any time or get promoted to a managerial position, which would leave the institution without a conservator.

### Security Measures

The respondents were asked what security measures they had put in place in order to minimise or prevent theft, mutilation or vandalism of information materials. The research found that a number of security measures had been put in place by many organisations. These included security guards, staff observation, closed circuit televisions (CCTV), use of access cards, and sensor gates. The findings of the study showed that it was only academic libraries which used CCTV to monitor the movement of users in the libraries. Again, it was the academic libraries only which have sensor gates at their main entrances to detect information materials not checked out. Based on these findings, it can be concluded that the level and sophistication of security measures put in place depend on the type of information centres, the number of collections held and the number and the type of users of the collections.

Concerning the handling of visitors at information centres, the majority of information centres indicated that their visitors were required to identify themselves before registering with the security guards at the entrance. In some instances, visitors were given visitors' pass or identification cards. Employees used employees' cards which they were required to produce every time by the security guards. In some information centres, particularly in academic libraries, both staff and students used access cards to gain entry. If they did not have access cards, they had to register with the security guards as day visitors.

### Storage Facilities

In order to effectively control access to storage areas, it is important that information materials be stored in separate storage facilities, where environmental conditions can be controlled. This study therefore sought to assess if information centres had storage facilities which were dedicated solely for the storage of information materials. The results revealed that whereas many information centres, especially academic libraries, had separate areas for their collections, some of the smaller information centres housed their collections alongside other non-information materials. This means that it would be difficult to control the environmental conditions to suit the information materials; hence the materials may deteriorate and get damaged. Where storage areas were not dedicated to, information materials only, theft and mutilation of information materials may be rampant because those who also used the storage facilities would have free access and vulnerability of the materials would definitely be increased.

### Fire Prevention Facilities

This research also sought to determine the availability of fire prevention facilities. The research findings showed that all information centres had some form of fire prevention equipment, which ranged from smoke detectors, fire alarms, sprinklers to fire extinguishers. Sprinklers were, however, not very common in many information centres, especially those housed in old buildings. Moreover, the research revealed that although information centres had relatively adequate fire prevention facilities in place, the majority had not conducted any risk assessment. By conducting risk assessments, information centres would be in a position to identify the most likely fire hazards and how these could be avoided.

As regards the availability of emergency exits, the findings of the study revealed that many information centres lacked them. The study further revealed that where emergency exits were available, they were not clearly marked or were not kept clear of obstructions. A clear example of such an information centre is the BNARS, where the emergency exit had been completely blocked, due to shortage of office space. This is quite dangerous because in the event of fire, there would be a lot of confusion, especially among visitors, who would not



know which way to go, especially if the fire starts at the main entrance. This situation would be exacerbated by the fact that many institutions had not conducted fire drills for their employees, which would include fire awareness, sounding fire alarms, evacuation procedures and operation of fire fighting equipment. Employees of these organisations would, therefore, be as confused as the visitors. Organisations should be able to work with the Fire Brigade which should be able to provide training and advice on fire precautionary measures.

Moreover, the study has revealed that many of the information centres had shut-off valves and breaker switches which were clearly labelled. It was, however, observed that these were not easily accessible to visitors who would not be very familiar with the buildings of information centres.

## Recommendations

Based on the findings discussed above, it is suggested that the recommendations listed below should be implemented, in order to ensure that information centres in the country are protected from all sorts of hazards.

- Botswana establishes a national disaster preparedness committee for information centres whose mandate would be to develop and guide the implementation of disaster management plans. The committee should be chaired by BNARS and should include representatives from all the information centres, NDMO, local fire brigade and the police. This would alleviate the problem of lack of resources and expertise, which respondents blamed for failure to develop disaster preparedness plans. The committee would also be responsible for disaster awareness campaigns among creators, managers and users of information materials.
- Disaster preparedness responsibilities should be incorporated into the job descriptions of some staff of information centres. Such officers would have the obligation to address disaster preparedness issues and could be held responsible for any failure to prevent or minimise impact of disasters.
- Information centres should conduct risk assessments to determine the nature, frequency and possible impact of disasters on their information materials. The results that will be obtained from the risk assessment reports will enable the information centres to develop specific measures on how to effectively deal with disasters to which they are vulnerable. The risk assessment should also include the identification of vital records held by them. This will also result in proper arrangement for the storage of vital records either on site or off-site.
- Disaster and security drills should be conducted regularly for staff working in libraries, archives and records management units. Staff training and revision of disaster preparedness plans are continuous exercises which would enhance any organisation's ability to manage disasters. Any break from the norm would compromise an organisation's level of preparedness against disasters, including security problems. A continuous programme will ensure the commitment of all the employees of information centres to fighting disasters, since they would be aware of their roles and what the organisations have put in place to manage disasters.
- Workshops and seminars should also be run for members of staff to acquaint them with knowledge of the disasters that may cause damage to information materials and how to handle damaged materials. Disaster training may be done in-house or staff members may be sent to some training institutions and should focus on the following:
  - (i) The care and handling of library and archival materials.
  - (ii) Disaster preparedness and recovery.
  - (iii) Basic repair of library and archival materials.
  - (iv) Library binding as a preservation option.
  - (v) Vital/special and archival collections.
  - (vi) Library and archival security.
- Disaster plans should be approved and procedures should be put in place for regular review. Revision of plans can help identify flaws and omissions in the disaster plans.
- Staff should be charged with the responsibility of looking after information materials. They ought to be equipped with appropriate skills necessary for the proper and effective handling of the



materials. It is important that high standards are maintained in public areas, and staff should therefore ensure that users are aware of their responsibility when handling material, hence the need for strong supervision in reading areas. The expected standards of behaviours must be published and made available to users at all times (Rhys-Lewis, 2000).

Regular stock-taking of information materials be conducted at regular intervals. Lack or absence of regular stock-taking of documentary materials very often contributes to failure to know lost or misplaced items. It is suggested that information centres put measures in place through which they can detect missing or lost information materials.

There is a need to recruit and train security guards who appreciate the value of information holdings. By their very nature, information centres are unique service providers, and so are the security problems they encounter.

Information centres should identify and list their vital information resources, so that they can put appropriate measures in place for the protection of these resources in terms of storage and usage. Libraries also need to identify publications which would be difficult to get if they are destroyed by disasters. These are publication which could be out of print or very expensive.

NDMO should second its own staff to various ministries to provide the expertise rather than rely on the focal persons who have not had any professional training on disaster management.

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# Resource Sharing among Nigerian University Law Libraries: A State of the Art

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## Abstract

*This study investigates the state of the art in resource sharing among law libraries in Nigerian universities. The survey research design was adopted for the study. Copies of the questionnaire designed by the researchers were administered to all the 33 Nigerian universities offering law programme. Of these, 27 law libraries responded. Simple percentages were used in the analysis of the data collected. The study revealed that: every law library acknowledged the need for resource sharing with attendant benefit to the participating libraries; majority of the libraries often shared resources, while 13 (49.15%) of the libraries shared resources rarely. Admittance was ranked first by 24 (88.89%), on forms of resource sharing, followed by donation/gift 20 (74.07%), while cooperative classification (3.70%) was ranked least. Only 6 libraries (22.22%) agreed that they had written policy on resource sharing. Constraints and hindrances to resource sharing in law libraries were identified and the way forward proffered.*

## Introduction

In contrast to the premise of survival of the fittest as a law of nature and condition for progress, there is a new humanistic resource sharing idea, which

considers love, sympathy and mutual aid as more important elements in human development. Nowadays, no individual or group can profitably remain an island unto itself. This explains the various forms of co-operation that exist not only among individuals and groups that share common cultural, economic and ideological values but also among those that pursue different and sometimes contrary policies. The rich and poor also seek to work out possible areas of co-operation among themselves. Cooperative enterprise is probably more logical and easier among individual entities whose resources, problems and aspirations are somewhat similar. This is why it could be worthwhile for law libraries in Nigeria to be involved in the sharing of resources among themselves.

Jegede (1975) asserted that the desirability for cooperative acquisition of legal materials would be more pronounced in the 1990s. Such desires had become much more pronounced in the past decade and the new millennium. Cooperation is not only desirable in the acquisition of materials, but also in resource sharing in its entirety. All law libraries in Nigeria such as academic, judiciary, departmental, or research, experience common problems of inadequacy of collection, limited budgets, paucity of *Nigeriana* law literature, inappropriate staffing due to lack of competent qualified lawyers in charge of the law collection, etc. Indeed, cooperative efforts may well not only rescue troubled libraries economically, but also revitalise them and make them stronger and more effective (Duckett, 1987).

Globally, no library can claim bibliographic completeness in its collection development, but when placed in perspective of law collection, resource sharing seems an important option out of the problem. This paper aims to examine the state-of-the-art in resource sharing among law libraries in order to



determine the level of sufficiency and effectiveness of this service point. Similarly, in this paper, factors militating against resource sharing in Nigerian law libraries would be examined with suggestions on how such problems could be alleviated.

### Research Questions

To guide the study, the following research questions were posed:

1. Is resource sharing among Nigerian law libraries desirable?
2. Do law libraries in Nigeria share resources among themselves?
3. How often do law libraries in Nigeria exchange resources among themselves?
4. What forms of resource sharing do Nigerian law libraries engage in?
5. Do Nigerian law libraries have any formal (written) policy on resource sharing?
6. How satisfied are law libraries in Nigeria with their extent of involvement in resource sharing among themselves?
7. What are the major obstacles hindering the efficient performance of resource sharing among law libraries in Nigeria, and how these could be reduced, if not eradicated?

### Literature Review

The Law collection of university holdings is part of the entire stock of the library and therefore constitutes an important part of overall resource sharing activity of the library. Adekunle (1978) states that resource sharing among libraries is imperative, as no single library can acquire all its needs. The author asserts that some of the reasons which make resource sharing programme imperative include:

- (i) Information explosion – which makes the individual library unable to acquire all its needs, due to prohibitive cost and limited storage space available;
- (ii) The problem of awareness of existence of all materials;
- (iii) Accessibility of the materials;
- (iv) Increase in the number of people who need information urgently; and
- (v) Prohibitive cost of qualified personnel to handle and process materials, etc.

It can be deduced from the above itemisation, especially (ii), that there have been lapses in bibliographic control of law materials, especially those locally produced. For exhaustive acquisition of law materials, resource sharing therefore is a viable option.

Dipeolu (1994) opines that resource sharing is invaluable and encourages healthy comparisons that can lead to improvement in practices if approached in the right spirit, and with correct attitude. Other writers have focused on information and communications technology (ICT) as a means of fast-tracking resource sharing. For instance, Dulle, et al. (2002) have emphasised how the integration of ICT in scientific research has enhanced resource sharing and scientific collaboration through the application of virtual structures and networks, for example, computerised library, virtual laboratory, etc. According to Dulle *et al* (2002), ICT provides an extended role to libraries in terms of increasing the range of their services, linkages with institutions and for sharing their resources and expertise, as well as the concept of libraries from "holding to access". Thus, efficient resource sharing among law libraries through ICT will be of benefit to scientific researchers, besides the emerging virtual library system in the country.

A survey conducted by Alemna and Antwi (1990) reveals that all university libraries in Ghana are involved in inter-library loan services. Indeed, this is regarded as the most popular form of resource sharing among libraries. Inter-library loan provides a very valuable means of augmenting the limited resources of the libraries. It also provides a means whereby materials that are not heavily used by one library can be obtained for users in another library. This has been confirmed in similar studies by DeBruijn and Robertson (1977) and Kisiedu (2002). Needless to emphasise the major limitations confronting inter-library loan services especially in terms of transportation, courier expenses and problems of communication in general.

A consortium usually consists of partnership that leads to resource sharing. For instance, a consortium is formed when a group of libraries formally come together to pursue common interests like controlling and reducing information costs, improving resource sharing, sharing licensing issues with each other and developing a network information environment



(Martey, 2002). In pursuing these common interests, participating libraries will make payments for common services that members utilise in delivering service in their respective libraries. Libraries throughout the world are expected to provide enhanced information with less individual-based resources. The response of libraries has been the formation of consortia in response to this demand. An example is the Nigerian University Libraries (NULIB) project, which evolved with five founding partner institutions at the SCAULWA meeting 2001 held in Legon, Ghana. This has now expanded to include over 50 university libraries participating in Nigeria (Lawal and Ani, 2007).

Usman (2006) discusses the new activities, methods and technology used in resource sharing. He posits that libraries have shared resources for many decades through both formal and informal agreements. These agreements have usually been predicated on the use of structured union catalogue and inter-library loan protocols, requiring regular and continuing intervention between the libraries and the libraries' users. In view of the advent of the electronic catalogues, the development of the Internet, the contractual access to resources provided by the commercial vendors such as the Online Computer Library Catalogue (OCLC), Emerald, and the formation of the Digital Library Software, such as the Greenstone Digital Library Software, the entire nature of resource sharing and library networking has changed significantly. ICT encompasses modern approach to resource sharing including: Internet, electronic mail, digital library, teleconferencing/video conferencing and office automation (Usman, 2006).

Similarly, Blakes (2006), in a study on the availability of ICT facilities and resource sharing cooperatives among some Nigerian university libraries, found that ICT facilities were inadequate and there existed no effective resource sharing initiatives among the libraries. It was also observed that the libraries share resource merely in terms of contributing library information in paper-based formats. They do not have adequate ICT facilities for an electronic and telecommunications, and transmission of information through networks and systems.

Notable efforts are therefore being made by African universities to foster co-operation among libraries through the support of such organisations

as the Association of African Universities (AAU), with the support of the International Development Research Centre (IDRC). One key player is the Cameroonian Interuniversity Network (CIN), while the Kenya Education Network (KENET) will have a far-reaching impact on information technology in Kenya's academic libraries. This initiative was spearheaded by Kenya's institutions of higher learning to establish a high speed, reliable, and sustainable IP Network for all Kenyan universities. Other efforts such as the Malawi Academic and Research Network (MAREN) and Senegal's UCAD point at the determination in African countries to speed up socio-economic development through resource sharing (Etim, 2006).

Etim (2006) in her study on resource sharing proposed that there is a need to have:

- i) Reciprocal use of satellite access, both at the national and regional levels.
- (ii) Wireless computing (Hotspots, WI-MAX, Wi-Fi).
- (iii) Sharing of expertise (trainers) at the sub-regional and continental levels.
- (iv) Strengthening of electronic power capacity.
- (v) Regulatory bodies that would support the development of content.
- (vi) Establishment of wireless access in amphitheatres, and rooms for students, and university offices.
- (vii) Connection of virtual libraries: the creation of a support base for regional university centres.
- (viii) Establishment of a network of African universities, to encourage cooperative efforts in training and research.
- (ix) Mapping of existing networks.
- (x) Collaborative efforts by universities to get funding for increased bandwidth for teaching and research.
- (xi) Resource sharing through data connectivity.
- (xii) Policy reforms to secure affordable access to ICT.

Rosenberg (1993) proposed various ways in which resource sharing among African university libraries could be improved. These include, among others, the following:

- (i) Requesting a percentage allocation of the university budget, for example 5% or 6%.



- (ii) Insisting that money from income generating activities is paid into a separate library account rather than into the general university account.
- (iii) Campaigning for the decentralisation of university budgets, so that control over expenditure lies with the library, planning for resource sharing would then become a meaningful exercise.
- (iv) Suggesting that universities within a country specialise at the research level, so that each university library would be able to rationalise its acquisition of expensive books and journals.
- (v) Insisting that a percentage of all outside aid to facilities and departments automatically comes to the library, so that it would be able to adequately satisfy the information needs of the project being funded.

Adeogun (2005) examines reasons why resource sharing is important to Seventh-Day Adventist university libraries in Africa. She examined scientifically the resource sharing practices that are unique to each library selected for the study. She also examined the constraints of resource sharing as experienced by the librarians, the students and the teaching staff of each university.

Law librarianship is undoubtedly highly specialised, with professional work experience directly predicated on the need for information support in the education, training, development research and prosecution of the law. Regardless of the information need site, such as in classrooms, courts, judicial offices, bench and bar, or in the overall society, the wholesome functioning of the legal practitioner rests squarely on his/her ability to access relevant and current information, a need which falls directly within the work schedule of the law librarian (Anigilaje, 2005; Ugboma, 2005).

Traditional resources in information and work schedules are gradually moving into the electronic environment, which presents a whole new experimental model for law librarians. There is a general agreement that information provision has broken the bounds of all natural restrictions and is available by the touch of a button. The American Association of Law Libraries (2003) in discussing the future of law libraries stated that the world of legal information is rapidly moving to a totally electronic environment. Consequently, the

advantages of those digital formats are also numerous and enriching as expressed by Omekwu (2005).

This study sets out to provide an insight into the current situation on resource sharing by law libraries in Nigerian universities.

## Methodology

The population for the study consists of 33 universities in Nigeria offering law programme (Appendix). Of the 33 university law libraries, nineteen (19) were federal universities; ten (10) were state universities, while four (4) were private universities. A structured questionnaire was developed by the researchers consisting of nine items for the respondents. It was sent to all the 33 university law libraries. Of these, twenty-seven (27) consisting of seventeen (17) federal, seven (7) state and three (3) private university law librarians in charge of the respective law libraries filled and returned the questionnaire, representing a response rate of 81%. Data collected were analysed on the basis of the research question formulated for this study. Simple percentages were used in the analysis of the data.

## Findings

All the law librarians in the 27 university law libraries surveyed were of the opinion that resource sharing among university law libraries in Nigeria was desirable. This is a testimony to the fact that every librarian has acknowledged the need for resource sharing among libraries with the attendant benefits to the participating libraries. Twenty-six (96.3%) respondents affirmed that they shared resources among themselves, while only one (3.7%) did not share resources with other law libraries.

### Frequency and Types of Resource Sharing

The majority of the respondents (51.8%) often exchanged resources among themselves. According to table 1, two of the respondents (7.41%) shared resources very often; 12 (44.44%) shared resources often. According to table 2, 24 (88.89%) law libraries in Nigerian universities shared resources in form of admittance while 12 (44.44%) shared resources in form of exchange of publications. Twenty (74.07%) exchanged resources through donations/gifts.



**Table 1: Frequency of Resource Sharing among Law Libraries in Nigeria**

Variable	No. of university law libraries	Percentage
Very often	2	7.41
Often	12	44.44
Rarely	10	37.04
Not at all	3	11.11
Total	27	100

**Table 2: Forms of Resource Sharing among Law Libraries in Nigeria**

Forms of resource sharing	No. of university law libraries	Percentage
Admittance	24	88.89
Donation/gift	20	74.07
Exchange of publication	12	44.44
Training of staff	9	33.33
Hosting of conferences	8	29.63
Exchange of personnel	1	3.70
Cooperative classification	1	3.70

N = 27

**Library Policy**

The majority of the respondents did not have any form of written policy on resource sharing, as 21 (77.78%) indicated that there was no written policy on resource sharing. About 60% of the respondents (59.26%) expressed satisfaction with resource sharing.

**Factors Inhibiting Resource Sharing**

Table 3 shows that the perceived major obstacles hindering efficient performance of resource sharing were insufficient copies of resources (88.89%) and lack of funds (77.78%). Other factors considered as obstacles to resource sharing were: lack of union catalogue (66.67%), fear of losing the materials to the borrowing libraries (59.93%), non-availability of national policy on resource sharing (62.96%), lack of transport facilities (communication problems)

(74.07%), lack of relevant information and communication technology (74.07%) and epileptic power supply (51.85%).

**Solutions to Resource Sharing**

As revealed in table 4, 25 of the respondents (92.59%) contended that increased awareness of the need for resource sharing among law libraries was a way of overcoming the problem of resource sharing in Nigeria. Twenty-three respondents (85.19%) posited that increased funding for law libraries would overcome the problem of resource sharing in Nigeria. Similarly, 23 respondents (85.19%) were of the opinion that provision of relevant ICT facilities could help to overcome the identified problem of resource sharing among law libraries in Nigeria. Seventeen (62.96%) proposed steady power supply; 19 (70.37%) suggested the provision of a union catalogue for materials in all Nigerian law libraries; and 20 (74.07%) suggested the provision of a national policy on library resource sharing as ways of promoting resource sharing.

**Table 3: Factors militating against Resource Sharing among Law Libraries in Nigeria**

Factors	No. of university law libraries	Percentage
Insufficient copies of resources to be shared	24	88.89
No funds	21	77.78
Communication problems (lack of transport facilities, etc)	20	74.07
Lack of relevant ICT facilities	20	74.07
Lack of union catalogue	18	66.67
Non-availability of national policy on resource sharing	17	62.96
Fear of losing the materials to the borrowing libraries	16	59.93
Epileptic power supply	14	51.85

N = 27



**Table 4: Ways of overcoming the Problems of Resource Sharing in Nigeria**

Proposed solution	No. of law libraries	%
Increased awareness of the need for resource sharing among law libraries	25	92.59
Increased funding for law libraries	23	85.19
Provision of relevant ICT facilities	23	85.19
Provision of national policy on library resource sharing	20	74.07
Provision of Union Catalogue for materials in all Nigerian law libraries	19	70.37
Steady power supply	17	62.96

N = 27

## Discussion of Findings

The inherent problem of inadequate resources for information in law stems from reliance on overseas published materials augmented by locally published materials, which are difficult to control bibliographically and are very expensive. The findings of the study point positively towards resource sharing. In addition to sharing books, journals, monographs and law reports, university libraries should subscribe to an existing library consortium organised by the Committee of University Librarians of Nigerian Universities (CULNU).

Among the reasons for the new worldwide focus on resource sharing among libraries are: that the quality of services is enhanced; the cost of service is reduced; and duplication of stock is minimised (Alemna and Antwi, 2002). With increased awareness for resource sharing among law libraries, current level of exchange of documentation and admittance of users, there should be greater co-operation in processing of materials.

The study found that there are several areas of resource sharing which could be beneficial to university law libraries in Nigeria. These include:

inter-library loan and document delivery, shared database, sharing/exchange of staff; cooperative cataloguing; cooperative acquisition; co-operation in the exchange of duplicate materials; sharing expertise in answering reference questions; and cooperative storage. If every law library could determine the areas in which it is best placed to function, a firm articulated policy and plan could be put in place.

The proposal of Rosenberg (1993) remains a valuable guide today in the area of resource sharing among libraries. While the author's suggestions seem to provide some solutions to the financial problems, there are still the managerial problems to contend with in resource sharing among university libraries in Africa. Any cooperative activity requires a high level of managerial skill and commitment for it to succeed. All participating libraries in the resource sharing should be bound by rules and regulations and made to sign an agreement to join the resource-sharing project. The governing structure must have the responsibility and authority to make and review policy, to review activities and to issue directives for effective management of the resource sharing.

## Conclusion and Recommendations

From the findings of this study, it can be deduced that although resource sharing is considered by law librarians as desirable among Nigerian university law libraries, the level of satisfaction with the existing pattern /extent of resource sharing is still low. This research found out that only 59.26% of the libraries were satisfied with the extent of resource sharing among law libraries in Nigeria, (40.74%) were not satisfied. This presupposes that there are constraints and hindrances on resource sharing among law libraries in Nigerian universities. The low level of satisfaction with the extent of resource sharing needs to be redressed.

The constraints and hindrances are real enough, but they should not prevent law libraries from striving to share resources and search for solutions since the Nigerian society requires information to promote legal information and national development. In the global context, it is unfortunate that libraries in Nigerian universities still find themselves unable to access the stock of knowledge available. Lack of funds and resources have been cited as foremost on the list of



constraints (Kisiedu, 1997). The lack of funds should be tackled through an all-embracing library budget system.

It is noteworthy that law libraries in Nigerian universities have slowly but consistently become aware of the importance of resource sharing in facilitating access to information in a way they had never previously experienced. The call for co-operation and networking among Nigerian libraries is real, and the time for concerted action is now.

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## APPENDIX

### LIST OF NIGERIAN UNIVERSITIES OFFERING LAW COURSES

1. \*Abia State University, Uturu, Okigwe, Abia State
2. \*Adekunle Ajasin University, Akungba-Akoko, Ondo State
3. \*Ahmadu Bello University, Zaria, Kaduna State
4. \*Ambrose Alli University, Ekpoma, Edo State
5. Bayero University, Kano, Kano State
6. \*Benson Idahosa University
7. \*Benue State University, Makurdi, Benue State
8. Delta State University, Abraka, Delta State
9. Ebonyi State University, Abakaliki, Ebonyi State
10. \*Enugu State University of Science and Technology, Enugu, Enugu State
11. \*Igbinedion University, Okada, Benin, Edo State
12. \*Imo State University, Owerri, Imo State
13. \*Lagos State University, Ojo, Lagos State
14. \*Madonna University, Okija, Anambra State

15. Nassarawa State University
16. Niger Delta University, Bayelsa State
17. \*Nnamdi Azikiwe University, Awka, Anambra State
18. \*Obafemi Awolowo University, Ile-Ife, Osun State
19. \*Olabisi Onabanjo University
20. \*Kogi State University, Ayigba, Kogi State
21. \*Rivers State University of Science and Technology, Port Harcourt, Rivers State
22. \*University of Abuja, Gwagwalada, Abuja
23. \*University of Ado-Ekiti, Ado-Ekiti, Ekiti State
24. \*University of Benin, Benin City, Edo State
25. \*University of Calabar, Calabar, Cross River State
26. \*University of Ibadan, Ibadan, Oyo State
27. University of Ilorin, Kwara State
28. \*University of Jos, Jos, Plateau State
29. \*University of Lagos, Akoka, Lagos State
30. \*University of Maiduguri, Maiduguri, Borno State
31. \*University of Nigeria, Nsukka, Anambra State
32. \*University of Uyo, Uyo, Akwa Ibom State
33. \*Usman Dan-Fodio University, Sokoto, Sokoto State

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## New Publication

**Information and knowledge Management in the Digital Age: Concepts, Technologies and African Perspectives.** Edited by L.O. Aina, S.M. Mutula and M.A. Tiamiyu. Ibadan: Third World Information Services Ltd, 2008 457p. ISBN 978-978-084-723-4. Price £25 (postage £7); US\$ 50 (postage US\$15); N3000 (postage N500 )

This book consists of 18 chapters, beginning with an introductory chapter, in which information and knowledge management in a digital society is presented from an African social perspective. The introductory chapter further discusses how information and knowledge management in the digital age can meet human needs and fulfil the visions of Africans. Other topics covered in the chapter are: role of knowledge economy in employment creation, the impact of globalisation processes, and the roles of international stakeholders in information and knowledge management in Africa. The chapter concludes with a discussion of some of the strategies that African countries and organisations can use to overcome the challenges of information and knowledge management in Africa.

The remaining 17 chapters are grouped into five parts:

- Part I: The Internet and the World Wide Web
- Part II: Digital Resources, Technologies and Applications.
- Part III: Information Infrastructure and Development
- Part IV: Knowledge Management Systems
- Part V: Policy and Management Issues

There are three chapters in Part I. It begins with Chapter 2, which concentrates on the Internet and World Wide Web. The requirements for connection to the Internet and gathering of information on the Internet are discussed. The chapter covers the status of Internet connectivity in Africa. The educational applications of the Internet

in Africa are also highlighted. Chapter 3 covers the importance, sources and the challenges of local content development in Africa. The chapter provides institutional frameworks for local content development and how access to local content in Africa can be enhanced. The concluding chapter for this part, Chapter 4, presents the need for African web content and the challenges of developing and accessing such content. The requirements for web design and maintenance are discussed. The chapter ends by discussing the various web design tools, such as editors, converters and generators, for creating web pages.

Part II of this book is concerned with the applications of digital resources, and how they can be harnessed for development in Africa. It begins with Chapter 5, which provides a treatment of the evolution of digital libraries, and explains the distinction between polymedia, electronic, digital and virtual libraries. The infrastructure and tools necessary for developing a digital library are presented. The challenges for establishing digital libraries in Africa are also discussed. The chapter concludes by discussing the global digital library initiatives and digital library projects in Africa. Chapter 6 traces the history of library automation and the impact of technological developments on the transition from library automation systems to library information systems. The chapter provides a comprehensive treatment of planning for an automated library information system. A brief description of common software used for library automation in Africa is presented. The chapter concludes by discussing the challenges of library automation in Africa. Chapter 7 focuses on the importance of e-government in Africa and the various types of e-government interactions such as: government to government (G2G); government to business (G2B); government



to citizens (G2C); and government to employees (G2E). The challenges of e-government for Africa, including data systems infrastructure, legal framework, institutional framework and human resources, are also discussed. The chapter also emphasises the importance of e-records as a prerequisite for e-government, and the need to ensure their accuracy, relevance, authoritativeness, completeness, authenticity and security.

Part III is on the existing information infrastructure, developments and constraints in Africa. The lead chapter for this part, Chapter 8, discusses the prospects of Africa reaching the information society status. The challenges of pursuing information society status for Africa are enactment of relevant enabling legislations that would enhance the provision of ICT infrastructure and access to information on the continent. Chapter 9 discusses the nature and factors responsible for digital divide. Among the factors listed, are economic, political, local, cultural and linguistic problems, HIV/AIDS scourge, telecommunication constraints, brain drain to countries outside Africa, inadequate education budget, limited education and literacy, lack of institutional level ICT policies, national ICT policy and regulatory frameworks, and inadequate research and development. The initiatives and programmes aimed at bridging the digital divide in Africa at global, regional and national levels are discussed. Chapter 10 discusses the two major bibliographic networks in Africa: Ain Shams in Egypt and SABINET in the Southern African region, as well as library consortia and free online databases that provide mainly African content and sources of information. The infrastructure for enhancing library/bibliographic networking in Africa is presented. The inhibitors to initiatives and availability of library networks are also listed, including under-utilisation of existing technology, digital illiteracy, lack of skilled and trained manpower, inadequate ICT facilities, lack of national IT policy, poor communication infrastructure, and inadequate appreciation of the benefits of ICT and networks, expensive ICT equipment, and resistance to change. Chapter 11 focuses on the challenges of digital material preservation. They include technological obsolescence, continuous migration, lack of legislative policy and strategy, lack of awareness, lack of collaboration and partnership,

deterioration of the digital media, and disaster planning and recovery. The problems of digital preservation in Africa are enumerated. The chapter recommends that an enabling framework for sustainable digital preservation in Africa should be anchored on national policies, legislation, national coordination, human resource capacity building, standardisation, research and development, and disaster planning and recovery.

Part IV concentrates mainly on knowledge systems. Knowledge management is treated comprehensively in Chapter 12. The chapter discusses the nature of knowledge from the simplistic, subjective and objective points of view, and explores the relationship between information management and knowledge management. The chapter also describes types of knowledge and phases in the knowledge management process. Mechanisms for creating, sharing and transferring of information and knowledge are provided. The use of technology in these processes is highlighted. The chapter is concluded with a discussion of the challenges of knowledge management in Africa. Indigenous knowledge systems in Africa are well covered in Chapter 13. The chapter provides definitions of Indigenous knowledge and Indigenous knowledge system. Types of indigenous knowledge and major areas of applications of indigenous knowledge systems are presented. The global interests in indigenous knowledge systems, as well as initiatives are covered. The challenges of managing indigenous knowledge in Africa are discussed.

Part V is concerned with the various concepts and issues in library and information science, especially in the digital era. Chapter 14 presents a comprehensive treatment of intellectual property rights and their administration. The challenges of managing intellectual property rights in the digital age are discussed. Chapter 15 examines the impact of Digital Rights Management (DRM) and Digital Millennium Copyright Act (DMCA), in protecting copyrights through licensing agreements and controlling access by using password and encryption. The chapter discusses how these have stifled fair use, competition, innovation and creativity; and preservation and conservation of information. Chapter 16 provides a comprehensive treatment of Freedom of Information and Privacy laws. It discusses the role of freedom of information in



promoting access to information, as well as privacy laws, in limiting access to information. The impact of ICT on these two mutually exclusive laws to access to information is discussed. Given the technological changes in the management of information, Chapter 17 appraises the challenges involved in enhancing security in the collection, processing and transmission of information. The fundamental components in an information security management framework/strategy are discussed. Information security plans and disaster recovery are highlighted, and the chapter concludes by discussing the challenges of information security management in Africa. Chapter 18, which concludes this part, concentrates on the basic strategies for searching information in online data bases, and the difficulties faced by African

researchers. It provides various strategies for obtaining relevant information.

Each chapter of the book also provides review questions at the end to enable readers to do self-evaluation on the understanding of the chapter. In addition, comprehensive lists for further reading are provided. This book is addressed to all those involved in the study and practice of library and information science, archives and records management, and the information technology and publishing professions in Africa, at all levels, whether as students or professionals.

For further information on the ordering of the book, please contact the Business Manager, P. O. BOX 20492, Ibadan, Nigeria.

### Re-evaluation of African Management

*Re-evaluation of African Management* by Dr. M. A. Oduro is a book that challenges the conventional wisdom that Africa is a continent of underdevelopment. The book is a collection of essays that explore the role of management in the development of Africa. The book is divided into two parts. The first part, 'The Role of Management in the Development of Africa', contains essays on the role of management in the development of Africa, the role of management in the development of Africa, and the role of management in the development of Africa. The second part, 'The Role of Management in the Development of Africa', contains essays on the role of management in the development of Africa, the role of management in the development of Africa, and the role of management in the development of Africa.

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## Professional News and Events

### Reorganisation of AJLAIS Management

As a result of the appointment of Dr. M. A. Tiamiyu of the Africa Regional Centre for Information Science, University of Ibadan, as the new Editor-in-Chief of African Journal of Library, Archives and Information Science (AJLAIS), a reorganisation of the management of the journal has been effected. The new Associate Editor-in-Chief is Professor S.M. Mutula, Associate Professor in the Department of Library and Information Studies, University of Botswana. Professor L.O. Aina, Federal University of Technology, Minna, Nigeria is the new Managing Editor of the journal, while the former Business Manager, Professor Iyabo Mabawonku, University of Ibadan, Nigeria is the Publishing Editor of the journal.

### A New Name for IAALD Bulletin

After 52 years of continuous publication of the International Association of Agricultural Information Specialists (IAALD) Quarterly Bulletin, it has been replaced with a new journal, entitled "Agricultural Information Worldwide: An International Journal for Information Specialists in Agriculture, Natural Resources, and the Environment (aka **AgInfo World**). The maiden issue was expected to be out in March 2008. **AgInfo World** will be peer-reviewed and seek to publish high quality articles on all aspects of the agricultural information profession. For more information on the new journal, Debbie Currie ([debbie\\_currie@ncsu.edu](mailto:debbie_currie@ncsu.edu)) can be contacted.

### Forth Coming Event

**XVIII SCECSAL Conference, Lusaka, Zambia 15 - 18 July 2008.** The Zambia Library Association will host the XVIII Standing Conference of Eastern, Central and Southern Africa Library and Information Associations (SCECSAL) in Lusaka, Zambia from 15-18, 2008. The theme of the conference is: Libraries and Information Services towards the Attainment of the Millennium Development Goals (MDGs).

The sub-themes are:

- i. The MDGs in the African context.
- ii. MDGs and Libraries: Challenges.
- iii. Information Communication Technology in Delivering Library and Information Services to achieve the MDGs.
- iv. Libraries and information services in specific sectors.
- v. Partnership in Information Provision towards the Attainment of the Millennium Development Goals.
- vi. Knowledge Management in the Context of the MDGs.
- vii. Indigenous Knowledge and Millennium Development Goals Marketing of library and Information Services in the context of MDGs.

For more information, Dr. Vitalicy Chifwepa ([vchifwepa@yahoo.com](mailto:vchifwepa@yahoo.com) or [vchifwepa@edu.unza.zm](mailto:vchifwepa@edu.unza.zm)) Chairman – Programme Sub-Committee can be contacted.



## AIMS AND SCOPE

African Journal of Library, Archives and Information Science is established mainly to provide a forum for librarians, archivists, documentalists, information scientists and other information related professionals in Africa to report their research findings but with emphasis on African setting. The Journal is refereed by distinguished scholars. Emphasis is on empirical research; however, manuscripts of high quality on theoretical aspects of the three information related disciplines will be considered for publication.

## MISSION

To provide on a regular and sustainable basis an excellent scholarly journal for reporting empirical research findings in the information profession in Africa

## VISION

To be the main resource base for library, archives and information science research in Africa

## NOTES TO CONTRIBUTORS

Contributors are to submit the manuscript by e-mail file attachment using MS word and a hard copy, typed double space on A4 paper. Ample margins should be provided. The title, author's name, position and place of work should appear on the first page. Subsequent pages, not more than 15, should include an informative abstract of not more than 100 words. A manuscript will be considered only if it has not been published elsewhere.

References and notes should be indicated in the text by names of authors and date of publication in brackets. The list of references should be listed in an alphabetical order at the end of the text.

References to journal articles should be in the following order: Author(s), date, title, journal's name, volume number, issue number and pagination, inclusive e.g.:

Mazikana, P.C. (1987) Archives and Oral History: Overwhelming Lack of Resources. *Information Development*, 3 (1) 13-10.

References to books should be in the following order: Author(s), date, title, place of publication, publisher, pagination, e. g.

Aboyade, B.O. (1989) *The Provision of Information for Rural Development*. Ibadan: Fountain Publications, 104 p.

References to contributors in collected works should be in the following order; authors(s), date, title of contribution, name of the editor, title of the collected works, place of publication, publisher and pagination, inclusive e.g.:

Neill, J.R. and Kotei, S.I.A. (1981) Towards a National Information System for Botswana. In: Inganji, Francis (ed.) *Use of information and Documentation for Planning and Decision Making*. Gaborone: NIR, pp. 36 - 53.

No charge is made for publication. Fifteen copies of reprints of each major article will be supplied to the principal author.

Manuscripts and other editorial materials should be directed to the Editor in Chief, Dr. M. A. Tiamiyu, Africa Regional Centre for Information Science, University of Ibadan, Nigeria (e-mail: mutatiamiyu@yahoo.com) or any member of the editorial board nearest to you.