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Providing Library services in the digital era: Opportunities and threats for libraries in Africa.

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"**Libraries and cultural values in the changing information world: African perspective**"

Introduction

Libraries in Africa have mainly been a heritage of the colonial era where libraries were imported to be used for recreational purposes by the colonialist and a few educated African elites. To a large extent, this image of the library for the privileged few has persisted to this day – with complaints from librarians that libraries are used primarily by students and mainly as a quiet place to study. Indeed, many commentators have bemoaned the sorry state of libraries in developing countries where budgets have been drastically cut and where collections are severely outdated and for the most part, wholly unsuitable and irrelevant to the context of Africa's developmental needs.

However, today we live in what is now generally known as the information age. A world in which information has become a valued commodity in its own right, and in which the role of information in fostering development has been recognized. This information world is also characterized by new ways of generating, managing, and disseminating information through the use of information and communication technology ICT). Indigenous information is being recognized for the value that it adds to the culture and to African development in general.

This paper considers the opportunities and potentials availed by the digital era for libraries in Africa to redefine themselves as community centers and contribute to cultural values and development in the African setting. At the same time though, there is no denying that there are certain threats posed by the digital era for libraries in Africa. These are threats that we all know about, but there are also other subtle threats that we need to be aware of and to consider as we move our libraries into the new information era. These threats will be explored in this

paper, and recommendations will be made as to how African libraries can capitalize on the opportunities and attempt to minimize the threats.

Opportunities and potentials for African Libraries

The potential role of the library
Libraries and librarians have a lot to offer that can be tapped in the digital era: they provide access; they realize the importance of partnership; they are good at structuring knowledge, and can be useful in providing easy access; they are good at imparting skills, and preserving heritage (Edwards, 2002). The role of the library is recognized as being to encourage literacy of all kinds – to read, use information effectively and computer literacy. Libraries have always been touted as institutions that have the potential to level the playing ground for those who cannot afford their own education and entertainment. Libraries also can empower people to participate in development, and they facilitate the flow of communication. Libraries have the ability to provide relevant information to the people. Librarians have been trained to establish user needs and to select and evaluate appropriate information. However, the contribution that libraries can make because of the above characteristics seems to have been largely ignored. Indeed Edwards(2002) notes that the role of libraries in the knowledge society is not fully understood or realized. If people cannot afford to buy information, it is available in the library. If people cannot afford to have access to technology, it is available in the library He notes that major initiatives (eg telecenters) have by-passed libraries with their considerable skills at generating, organizing, disseminating, imparting skills, etc. There is a potential therefore for libraries in Africa to play a meaningful role in the process of bridging the digital divide. Libraries can help towards the noble goal of building an inclusive information society as espoused by the Group 8 Digital Opportunity Task Force (G8 Dot Force).

According to Akst and Jensen (2001), Africa is in the grip of a famine, an information famine. The consequence of this famine according to the writers, are not so different from a severe shortage of food, "Growth is stunted, people die, the future dims…" (Akst and Jensen, 2001:1). The writers feel the answer to this can be found in digital information and the Internet, an idea that I wholly subscribe to. I also want to add that the library too holds the answer to this information famine. Much of the documentation that discusses and debates efforts at bridging the digital divide seems to overlook the potentially significant role that libraries can play in this endeavor. Examples of initiatives that have been taken include local service providers providing access to I CT and access to the Internet – at a fee. There is very little that chronicles the role that libraries have or can play in being community telecenters, hubs of information access to large rural and poor communities who cannot afford to purchase technology nor the information as found in newspapers and government policy and program documents (that are usually sold for a nominal fee).

Indeed, Snyman (2002) has shown that the approach taken by the South African Government to provide information to disadvantaged rural communities has not borne much fruit. The telecenters that were established have not been very effective: They are "struggling, ill-managed communication shops where hardly any information is being disseminated" (Snyman, 2002:341). It seems that they have been reduced to providing facilities for communication – e-mail, fax, photocopying, but very little of the information required to involve, engage, and include rural and disadvantaged populations into mainstream South African economy – which was the rationale for establishing these centers in the first place. A logical place to install such facilities would have been public libraries or even where there

were no public libraries, to include trained librarians to establish these centers as resource centers that would also provide government and other context specific information.

Bridging the digital divide
The digital divide is often viewed from many different views and perspectives. Access to information and communication technologies is one of them. The absence of local, context sensitive information on that great network of networks – the Internet is another. Both these areas provide a niche that libraries in Africa can step into. Indeed IFLA president, Christine Deschamps has called for the UN World Summit on the Information Society to recognize the key role of the library to bridge the digital divide – "World leaders should avoid re-inventing the wheel and should invest in the existing library infrastructure" (http://www.ifla.org/III/wsis2605.html). A number of governments in Africa are seized with providing universal access – ensuring that all citizenry has access to technological infrastructure that would enable them to take advantages of all the opportunities that the digital era heralds. In most cases throughout Africa, the places most likely to be electrified in the rural areas are the schools and public libraries. In a sense, this means that libraries in particular are an existing facility where technology such as computers and access to the Internet can be placed. There is talk of e-governance, e-health and e-education. This is what ICT can provide. Snyman (2002) has shown how disappointing telecenters have been in South Africa, and yet, we have an already existing infrastructure for providing this access to all information that would enable our populations to participate in the digital era. Libraries have always been envisioned as community centers, where people can go to obtain all kinds of information from the local to the international. Thus the opportunities wrought by the digital era can help to develop this role of the library, as the library can strive to provide community and other kinds of information digitally, a process that would help to bridge the digital divide. It is important to note that, "if we are to solve the digital divide, we must take steps to ensure that all citizens are able to receive diverse content that is relevant to their lives, as well as produce their own content for their families, their communities and for the Internet at large. Whether it's about producing content that is useful to an audience with limited literacy skills, or making Web sites more accessible to people with disabilities, the issue of content is a major factor in the digital divide equation" (http://www.digitaldividenetwor.org, accessed on 10/05/03)

Providing facilities for communication
ICT enable us to communicate on various levels: we are able to telephone, to fax, to e-mail, friends, family, and public officials, etc., (http://www.digitaldividenetwor.org, accessed: 10/05/03). It is that access to communication that enables individuals to participate in the mainstream of life, and yet there are many individuals, in Africa that are denied or do not have access to a telephone, a fax, let alone a computer. Besides word of mouth, these individuals are effectively cut off from being actively participating members of society. Many writers (Akst & Jensen (2001); Thapisa (2000); Chisinga (2000); Kiplang'at (2002) have pointed out the limitations on communication in Africa largely because of underdeveloped telecommunications infrastructure that does not extend to most rural areas. The libraries in Africa could provide communication services for the rural majority. The growth of wireless technology has been phenomenal in Africa. It is therefore possible that this technology can be used to provide linkages to the Internet and other sources of digital information, including government documents, policies and programs.

<u>The library in publishing</u>
The digital era brings in its wake many other opportunities for African libraries. One such potential lies in the provision of content that is local and relevant. Omole (2002) traces the history of libraries in Africa as being dependent on external content, and therefore perpetuating foreign cultural values. The use of ICT is seen as an avenue for these libraries to build up databases of relevant local content. This can be done by repackaging local content into electronic format and developing and hosting institutional websites and online services that have information on Africa (Omole, 2002).

African libraries, especially public libraries have been plagued with acute shortage of funding to ensure that they have decent collections that can be regarded as relevant to the developmental process and in facilitating developmental initiatives. According to Lor (1996), Africa has for a long time been a "bookless society", due to the lack of funds for purchasing new books and maintaining journal subscriptions. Therefore the potential for these libraries lies in access to hard to come by books and journals through INASP, African Virtual Library, Medline and many other bodies meant to benefit African countries. There are many such initiatives that have been set up in order to assist African Libraries provide information to their patrons. Libraries will now be able to acquire and manage not only print format information, but also digital information. This would include electronic books, e-journals, and many other digital databases that may provide current data for researchers. We stand to see the implementation of networked services so that the library service is extended to individuals who would not otherwise have had access due to distance, and perhaps, disability. Many libraries are now using the WWW to put their online public access catalogues on line for access by anyone with web access. Besides just including information on their in-house collections, these libraries are also able to put in more information, including links to web-sites that they have evaluated and feel are useful to their patrons. Libraries will therefore extend themselves as gateways to other available information.

Many libraries in Africa play a crucial role in enhancing the literacy of their citizens. For example, in Botswana, the public library is engaged in publishing literature meant for newly literate individuals who are products of the country's literacy drive program. ICT has meant that online publishing becomes increasingly popular as it has heralded a drop in production and distribution costs. Digital publishing technology offers fresh opportunities for countries in Africa, many of which produce little in the way of artistic and literary output due to lack of resources. The growing awareness of the potential of online publishing is driving the digitization of print materials.

<u>Libraries as information centers</u>
According to Adeyemi (1991) many libraries in Africa have not progressed beyond the traditional activities of librarianship, that is, preoccupation with activities associated with being custodians of books and other kinds of documents. Ford (1997) pointed out that the traditional role of collection and organization of information has in the main reduced libraries to warehouses of books. The digital era and use of technology has the potential to transform the library to "electronic information delivery centers". Chisenga concurs with this view that in the digital era libraries could be transformed to become information centered as opposed to book centered (Chisenga, 2000). It is possible at this stage to think in terms of just-in- time versus just-in-case access. The Library in its access role or as an information center will mean less preoccupation with physical collections, and more emphasis on providing information when it is needed, by patrons who will not necessarily even visit the library physically, but may access it remotely via Telenet or through the World WideWeb.

The traditional information acquisition process stands to improve as African libraries can now acquire information in digital form from the Internet and many other electronic sources that make information available in the digital format. The acquisition process also stands to be speeded up as book and other materials are ordered via electronic formats, circumventing the lengthy postal or 'snail mail' services.

The G8 Digital Opportunities Task Force, through the Genoa Plan of Action in its bid to reduce the digital divide, has advocated for the strengthening of local content on the Internet, this has led to the idea of Open Knowledge Network, a network of existing knowledge centers in developing countries. Whilst the OKN endorses the establishment of telecenters, the focus however is not on libraries setting them up, but rather on entrepreneur telecenters. The OKN places emphasis on the information being provided for free, yet one would imagine that any entrepreneur is in it for the business and money. Only non governmental organizations and libraries can afford to provide information for free. A case is therefore made for libraries to be considered as they have the requisite expertise and infrastructure for providing information in all forms.

The creation of community centers

In general, libraries have traditional been very big buildings, having the capacity to store large collections, and providing on-site access to local users. Ideally, with digital information, the storage of information in the library will cease to be a significant pressure point as more and more material is acquired in electronic format. The move from just-in-case to just-in-time collection development will mean that less and less materials will be ordered for storage, and more electronic access to information will be emphasized. For such developments to take place, electronic networking has to be possible, and it is expected that as libraries adopt the ethos of the digital era, and clamor for more digital empowering infrastructure, more networking facilities will be availed. Many governments, especially those of Botswana and South Africa are concerned about putting in place infrastructure to enable e-governance, etc., and it is hoped that the telecenters that are being set up will also provide an avenue for the populations to gain access to information that is produced locally and internationally. Once this is in place, then it should be possible to create remote electronic databases and provide access to them country-wide. One sees in the storage space being saved, an opportunity to provide space for community events. Community meetings to discuss cultural issues, facilities to actively record cultural information as delivered orally, etc. This is the creation of physical spaces where people can discuss, learn from, and support each other (Edwards, 2002).

Increased indigenous handling capacity

Lor (1996) points out that African countries suffer from a lack of indigenous information handling capacity. This is indeed very true, and is evidenced by a dearth of materials and documentation containing indigenous knowledge. Access to IT and the expertise will facilitate the handling, collection, storage and dissemination of indigenous knowledge. Availability of database management systems will assist in the capturing and documentation of such information. Libraries would now be in a position to convert some of its rare collections into digital format, and also some government related information so that access is not only restricted to people in the library, but can also be extended to those who may be at remote locations. Librarians should see themselves as researchers whose duty is to collect knowledge and store it for posterity. Not for modern libraries should be the role to just collect and organize data, but they should also be involved in the generation of that information.

Threats for African libraries

<u>Whose technology is it anyway?</u>
It is generally believed that the use of digital information will expand access to information, and this has generally been true. However, Buschman (1994) has pointed out that there is another side to digital information, which we should take cognizance of. It tends to exclude from access to information those who are unable to access the requisite technology. Technology is not neutral, as Balabanian (1993:25) has pointed out, "technology has always been an instrument of power and control – it takes the shape of, and in turn, helps to shape its embedded social system". The questions to ask are: Whose technology is it? Who produces and controls the technology? Who benefits? Does technology necessarily improve people's lives? It is clear that the media moguls and the IT oligarchies benefit from wholesale adoption of digital information. They fuel the conventional wisdom (amongst librarians) that IT is "sexy", it will boost their images and professional status and to ignore it is to forever be left behind. Adopting information technology does not necessarily translate to benefits – one only has to consider the experiences of many organizations and institutions that adopted hugely expensive computer systems only to be faced with the realization that they have failed.

<u>Just-in-case versus just-in-time service</u>
Digital information has in fact changed the kind of services that libraries offer. Libraries no longer use the "just-in-case" model where the library has ownership of mostly printed materials. They use the "just-in-time" model where the concept of access to electronic text is emphasized over ownership of print text. Although it makes economic sense to provide only the materials that will be used by the patrons, in a developing country setting, especially in a rural environment, there is no computer equipment, connectivity and the bandwidth to access information. Accessing information over the Internet is a problem even in academic environments because the connectivity is not optimal and bandwidth is far from being sufficient. Moreover, it is a problem providing electronic services to new literates and others who are not IT literate. It is even a bigger problem where electrical power is not available.

<u>Libraries as high technology rather than information centers</u>
Thapisa (2000) has warned that African "governments' attention to matters informational is fixed on technology, while the information remains unattended, unmanaged, and a non-issue for most bureaucrats" (Thapisa, 2000: 176). This is very true indeed, there seems to be more discussions on infrastructure and ICT policy, and very little on content and information policy. This, in my view, is where library and information professionals need to make their presence felt. They need to be the strident voices that remind us all the time that universal access is not about the technology, but about access to information that is relevant. Otherwise there is a real danger that our libraries may also become overzealous in embracing technology to the point where they may be regarded as high technology centers to go to, to get free Internet facilities rather than to obtain useful information that may enrich our cultural values or our knowledge.

We have already noted that Libraries in Africa are generally only utilized by a minority of the population, students in general, and very few other segments of the population. The threat is that perhaps those few users who find it a joy to go to the nearest library, may be alienated by the display of so much technology, especially if books and other print materials are relegated to the background.

Perhaps a significant challenge would be in getting the user community skilled in using the technology. Many users in Africa will not have had the opportunity to use computers, etc. In addition this may be magnified by their low levels of literacy and the poverty levels.

Digitization capacity
Digitization capacity is a problem in Africa, and impedes the digitization of local content. Although there is a will and realization of the need to digitize available information so as to provide the content that everyone is concerned about, the lack of the requisite skills, expertise and capacity prevents the realization of that will. The finances required to scan, store and conserve digital information is also a major stumbling block. The organization of that information once digitized and agreement on metadata standards are matters that are still subject to a lot of research, and discussion.

Resource constraints
Olden (1995) has pointed out that technology needs to be paid for, just like books and other print materials, but it also requires technical know-how to function. The reality however, is that public libraries in developing countries are not likely to have budgets sufficient enough to accommodate technology and the requisite expertise. It will take much more effort to extend digital information to the rural areas too. Already such libraries are laboring under shortage of funds. They must compete with health, education and the military for a dwindling national cake due to poor economic performance of most developing countries, and not to mention the great international debt that they are lumbered with.

The issue of sustainability of providing digital information is a serious problem in African countries (Makondo, 2001). Many African libraries find themselves depending on donor support in providing digital information, the Bill Gates foundation and the Carnegie Corporations are the two donors that spring to mind, and they are doing a lot to ensure that the digital divide is bridged. However, beyond the initial provision of the hardware, software and training, local libraries are expected to be able to maintain their equipment and upgrade software where necessary. More often than not, African libraries cannot do this because they are subject to financial constraints as many other sectors are. Some people have therefore advocated for a fee based library service. However, as Haar (1993) puts it, "Because information is power, unequal access implies a fundamental inequality of opportunity and a consequent diminishing of democratic values. Optimally, libraries act to equalize access and opportunity". Using digital information in this environment may therefore interfere with free access to information where some libraries have had to resort to charging for computers and Internet access.

Although in general digital information does have the potential of improving the lives of the larger population in developing countries. The current ICT environment in African countries militates against this role. Africa has a number of issues and barriers that prevent the potential of digital information in society from being realized. These include issues of access and education, as well as technology deployment (ECA, 1999). A number of writers have shown that the ICT presence and usage in Africa is dismal to say the least (Thapisa, 2000; Chisenga, 2000). People who truly believe that the use of digital information in libraries the world over will impact access to information, freedom of expression and opinion, and universal literacy and lifelong learning have either overlooked or assumed that everyone will have unfettered access to the requisite technology, knowledge, skills and affordability (Thapisa, 2000). This is not the case, especially in developing countries, and in particular those that are in Africa South of the Sahara. According to Thapisa, who was quoting Ashtar

and Lavoilette (1995) "Africa's information infrastructure is by far the least developed in the world with the smallest number of telephone lines per capita, most restricted access to computer equipment, most primitive information networks and most inaccessible media systems" (Thapisa, 2000:175). Chisenga (2000) goes further to note that even though some countries in Africa have full Internet access, such access is mostly limited to cities and major towns, and yet the majority of the population live in rural areas. In addition, only people who have the cash power can afford to buy computers and connect to the Internet. According to Affulo (2000), most African countries (31) have a teledensity of less than 1%, and very few have more than that.

It is clear that there are a number of barriers to the utilization of digital information in developing countries. These include a lack of good information infrastructure – both physical and regulatory. There is also a lack of access to technology in rural or remote areas, and to the poor and underprivileged. There is the issue of a lack of content in local languages, as well as lower levels of literacy (computer and otherwise). However, the biggest stumbling block for African countries is abject poverty. A recent study showed that the 15 richest people in the world have a net worth that is greater than all of sub-Saharan Africa (ECA, 1999). Internet access in Africa is exorbitant and unaffordable for the larger population. In the US, Internet access costs a user only 1% of average monthly income, in Uganda, it costs more than a month's average (per capita) income (Guardian Unlimited, 2000). Statistics show that on average, 1 out of 5000 Africans is an Internet user, compared to 1 out of 6 in North America (ECA, 1999). Poor literacy of the larger population means that even where attempts are made to provide access through Internet cafes and kiosks, many Africans cannot use the technology.

The situation is not hopeless as there have been a number of initiatives aimed at improving Africa's information infrastructure, notably, AISI (the African Information Society Initiative). AISI can be regarded as a framework on which to base information and communication activities in Africa. The situation continues to improve. In a submission to the Global Knowledge Development forum (GKD) in 2000, Jensen showed that the total number of computers connected to the Internet in Africa in January 1999 stood at 10,000, and by January 2000 had increased to 21,000 (Jensen, 2000).

Conservation and Preservation
Digital information does not have the attributes that the printed text has. Because it is dynamic and ephemeral, electronic text can be altered or manipulated very easily. It lacks therefore the permanence of record that paper versions have, (Buschman, 1993). Given the rapid development and obsolescence of the technology, preserving electronic text is a problem even in developed countries. If librarians emphasize the model of access over ownership in their collection policies, what will happen to print literacy, the historical record and social memory – it is clear when you consider issues of obsolescence of technology that preservation will be a challenge.

Libraries have always been custodians of cultural heritage. The digital era obviously provides a new dimension in conservation and preservation.

Content issues
Much of the information that is carried in digital form in the Internet has very little content of relevance to the greater population in developing countries. A cursory look at the web sites and pages on the Internet shows a predominance of content from the developed countries. It

is currently a well-known fact that the vast resources available on the Internet and other databases originate in the western world, and in particular, North America. The content found on the Internet at present cannot be useful to a poor illiterate farmer in rural Africa, unless local content is included. Recently on the Global Knowledge for Development (GKD) online debate, there was a lengthy debate on the development of a gateway of information for development by the World Bank. A number of issues were raised during the discussion. The fact that this was essentially an idea of the World Bank led to skepticism about the extent to which civil society and stakeholders in the developing countries really participated and were consulted. The contributors felt that for the gateway to benefit the intended people, especially the poor, the decisions must include input from the major stakeholders. Although the GDG is an attempt to address the digital divide, it was felt that it might exacerbate the problem by not including the intended information users (EDC, 2001). For as long as such projects are to be undertaken by forces external to the individual countries then the balance can hardly be redressed.

Access Issues
There is general consensus that developments in digital information have led to 2 concepts: information rich individuals with access to information that they require; and information poor individuals who lack the required information and access. Even within developed or industrialized nations the problem exists: where there are poorer districts without computing facilities in schools and libraries; poor people who are not able to purchase computer and connections to the Internet. In developing countries the problems are exacerbated by the fact the there is lack of communication or information infrastructure (libraries, telephone networks, etc). There are also issues regarding the content for people in developing countries as well as the issue of literacy. People tend to assume that if ICTs are in place, then access issues will be solved but this is not the case. Given a situation where a very small percentage of the population have access to digital information, where a large percent of the population is illiterate, it is plausible to argue that the use of digital information in public libraries does serve the censor's role of controlling who has access, who reads what and who owns information.

Proponents of the use of digital information in libraries in general have tended to wax lyrical over the possibilities of technology in libraries. Many of their observations have been based on academic and research libraries based in advanced countries, where digital information has facilitated wider access to information; to remote databases, and web documents about all kinds of topics, and institutions. Advocates of greater access to information as a result of digital information project the Internet as being the vehicle through which universal access will be attained. Although the use of digital information in public libraries have the potential of ensuring that people who would not normally have access to computers and to the Internet have a place in which to do so, this seems likely to be the case in cities and major towns in the developing countries. National librarians in such countries have a difficult time ensuring that libraries in rural areas are as good as libraries in large towns and cities.

Conclusions
Librarians need to recognize their great potential in the digital era to become truly community centers where culture values can be exchanged and disseminated. They can do this by shedding their traditional image as keepers and custodians of information. This can be done if they begin to realize that they play a huge role as conduits of information, and have to be open to the possibilities offered by digital information and ICT. These include, access to more diverse information, storage and dissemination of indigenous knowledge, conversion to

information and community centers, etc. However, even as they do this, librarians will have to be aware of the dangers posed by the use of technology. These have been outlined in this paper and include blind use of technology without realizing the implications; libraries becoming hell bent on technology to the detriment of information; the possible widening of the digital gap especially with respect to rural and urban centers; resource constraints and sustainability issues, etc.

Considering the balance sheet for libraries as presented, it would seem that there are more threats than opportunities. And yet, threats can be turned into opportunities, and it is our duty as librarians to identify the opportunities in the threats. First, Librarians and information (LIS) professionals need to get their view of technology into perspective. They should see it as a tool rather than an end in itself, and they also need to be aware of the implications of using technology so that they can minimize them whenever possible. Second, LIS professionals need to strike a balance between providing just-in-time access and just-in-case access to accommodate the different types of populations that they serve. Third, the populations that are being served need to be carried along in the transformation of libraries. There is need to avoid going over board on technology and digital information. LIS professionals the world over have discovered the value in cooperation, partnerships and consortia. To overcome the problem of digitization capacity, LIS professionals need to form consortia, because no one can go it alone. Lastly, LIS professionals need to take advantage of the many initiatives that are aimed at bridging the digital divide in order to try and build local capacity and maintain sustainability of the various projects.

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