

Preparedness of University Libraries as drivers for green transformation and sustainable development: the case of University of Nairobi Library, Kenya

Jane Achieng

University of Nairobi Library, Librarian, Centre for Advanced Studies in Law and Environmental Policy, University of Nairobi, Nairobi, Kenya.

caselaplib2013@gmail.com



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Abstract:

University Libraries in Africa have a role in driving the destinies of their nations in the provision of information that inform leadership on pertinent issues. Today, more than ever, the well being of humanity and social equity is threatened as a result of the imbalance created by the economic system against the earth's capacity. While, great effort has been made to contain it, there is urgent concern that the situation is out of control and to continue on the same path is suicidal. Like the clapping of thunder from a distance, momentum has picked to combat the impending disaster of increased environmental risks and ecological scarcities. University libraries have immense potential to position themselves as drivers of change in the strive for green transformation, environmental sustainability and sustainable development. Preparedness is a prerequisite for all key players and Libraries and those who manage information cannot be excluded.

This paper uses the University of Nairobi Library to expound on the debate on the preparedness of Libraries in Africa to engage and pick momentum needed to be relevant to the cause of green transformation and environmental sustainability. Being the oldest well known University in Kenya and beyond, it has an immense collection of information that can be utilized to help inform direction in the green transformation discourse.

The paper examined the University of Nairobi Library holistically, the staffing skills, the infrastructure as well as the digital repositories, the online materials including the existing subscription databases for relevancy, currency, accessibility as well as availability of the materials in the green transformation and sustainable development. The result confirms the extent to which the University of Nairobi Library understands, has captured and projects information that is in tandem with emerging new frontiers of studies in the subject. The gaps are isolated and areas for improvements are highlighted.

Keywords: academic libraries-research, environment information, libraries and sustainable development, libraries and green economy.

Background to the study

Every day, new subjects and disciplines evolve as the world faces new emerging challenges. Those who record the knowledge, history and the changes that are taking place adds new responsibilities on librarians and information repositories to adopt to the new paradigms. Not only in the way in which acquisition, organisation and dissemination of information is done but also in the manipulation of the whole infrastructure, structures and skills in the new knowledge domains.

Compared to other disciplines e.g. history, the historical timeline of environment and sustainable development points to a fairly young discipline in terms of the appearance of its descriptors and keywords in many resource centres and libraries across developing countries. However, in the developed world for example, the University of California at Riverside traces its environmental history timeline to as early as 1907 inspiring the thought that the subject of environment, its keywords and identifiers entered the university Libraries in the developed world much earlier. Many libraries in Africa and many more elsewhere in the developing world have not even began to capture the developments and evolution of the discipline into their databases.

A search in the University of Nairobi library database retrieved the earliest materials published in 1961 (1), 1964 (2) on the subject, with the bulk of the slightly over 2000 items being published in the 1980s. Indeed environmental issues in Kenya were initially closely associated with Prof. Wangari Mathai and her struggle to get the country to pay attention to saving the forests and planting trees. Ignorance turned many against her and labelled her a 'mad woman'. It is not until the 90s that the first School of Environmental Studies opened up in Moi University in Kenya under Prof. C.O Okidi, the doyen of environmental studies in Kenya. Soon after in the University of Nairobi where he was also a Professor at the Institute of development studies (IDS), environmental studies became part of the taught subject courses in various departments. Today, the Geography department, Wangari Mathai Institute, the institute of Climate Change, the Biodiversity Centre, the Centre for Advanced studies in Environmental Law and Policy (CASELAP) are institutions that are making major contributions to the environmental dialogue. One would then expect that the footprints of these developments would be reflected in the university of Nairobi library system in a significant manner.

Introduction

There is mounting pressure that signals increased momentum to combat the impending problems caused by increased ecological disasters, environmental risks as well as unsustainable development. Libraries in Africa with specific reference to university libraries have an urgent responsibility to attend to information in this discipline. This stems from the fact that events associated with this evolving disciplines portend real threats to mankind because they tend to be ecological disasters of 'biblical proportions'. The Fukushima nuclear power accident soon after the Great East Japan Earthquake of magnitude 9.0 on Friday 11 March 2011, the Alaskan oil spill in March 23, 1989, the Bhopal Eveready gas tragedy in December 1984 in Bhopal, Madhya Pradesh India. In Africa, the Niger delta oil spill disaster in 2008, and at home in Kenya, the degradation of the Tana Delta ecology, the effect of climate change causing frequent flooding along the River Nyando in the Kano plains and the Budalangi River, Narok and many parts of the county are incidents that can be overwhelming at the point of need and action. In as much as over the recent decades, librarians have experienced transformations from generalized to specialized service delivery to users, a sign that libraries are being drawn into playing a more active role than ever before, in matters of

environmental issues, the urgency for more action is palpable. From traditional functions, the need to reposition their functions and re-orient their roles in the face of growing knowledge in environment, sustainable development and green economy is a race against time. The nature of information on environmental situations is one that requires new prototypes and ways of doing things. It calls for innovation and aggressive utilization of technology to realize this challenge.

Statement of the problem

Every day, libraries and resource centres are confronted with handling emerging frontiers of new knowledge and disciplines which are forever evolving and developing. Getting to know that a new discipline or new subject area has been 'born' can be a daunting challenge for librarians who sometimes only discover that information entered a database without any determined or concerted effort on their part. So often, for some Libraries, it has to do with policies and for some well funded libraries such as the Library of Congress, by 'mopping up' all literature worldwide, it is able to capture every subject worldwide into their databases.

Reflecting on traditional library processes, and how they acquire store, organise and disseminate information, provoke the thought that it is closely related and tied to the depth, the breadth as well as the maturity and richness of a collection. To this extent, one library becomes better than another in being well prepared to avail relevant, timely and concise information to their users.

The question then is how prepared is the university of Nairobi to be able to capture information and emerging disciplines in the area of environment, sustainable development and green transformation and be able to adapt to the pressing concerns of the users of the information. Users of environmental information are expanding from students and teaching staff to researchers, industrial consumers, business entities and executives, government departments, workers, policy and decision makers as well as other organisations such as small and medium enterprises (SMEs), jua kali industries (informal sectors) and not to be left out are special interest groups such as women, minority groups and many others. At the same time, the discipline is expanding every day and encompassing in all other subject areas. These diversified users of information and the evolving nature of the discipline places maximum pressure on libraries to heed to the call for better facilities, services, tools and formats.

The current holdings of the University of Nairobi Library mirrors the extent to which the University of Nairobi understands the innate issues in the subject of environment, green economy, and sustainable development. Understanding this narrative reveals its preparedness and the depth of its engagement with the subject and this is the discourse and problem statement of the paper.

Objectives of the study

1. The objective of the study is to interrogate the University of Nairobi Library for preparedness to be able to provide relevant and timely information in the field of environment and sustainable development.
2. The other objective is to interrogate the repositories and databases for materials on the subject theme of environment and sustainable development against set parameters to establish the extent of the University of Nairobi Library's engagement and commitment to the issues of environment and sustainable development.

Data and Methods of the study

A set of key factors and attributes were designed against which the University of Nairobi library was gauged for analysis.

These factors were

- Physical infrastructure
- Staffing
- The processing and organisation of the materials
- The existing amount of information on the subject matter
- Existence of networks and networking efforts
- Subscription to databases

Physical Infrastructure

The physical infrastructure attribute looked at the buildings, the facilities and how the materials are stored as well as the overall working environment for the staff. The University of Nairobi library infrastructure consists of a network of libraries in various locations within Nairobi and in other cities and towns where the university has set up campuses. The main library known as Jomo Kenyatta Memorial library is the headquarters and is located at the Main campus. It was custom built in the 90s. Good and effective use of natural lighting, lots of working space for the staff, their tools, well fitted modern bookshelves and adequate sitting spaces for the users featured prominently.

There are 8 sub-libraries located in each of the various campuses with similar capacity to the main library. They are Medical library at the Medical school and the Dental school library at the School of Dentistry, the Chiromo Library at the school of biological and physical sciences, Mwai Kibaki Library at the School of Business, the Kabete Library at the school of agriculture and veterinary studies, Parklands library at the School of Law, the Kikuyu Library at the School of Education in Kikuyu Campus and the Kenya Science Library. The stately Gandhi wing building is home to 3 Graduate libraries, the population institute library, the institute of development library and Centre for advanced studies in law and environmental policy. All the sub libraries are within a radius of approximately 4 kms from the main library.

The four Satellite Libraries are located in satellite campuses in other cities and towns. They are hosted in safe and permanent structures with good storage facilities for the information materials.

Each library on the university network is home to materials that fit with the taught subject concentration of the college in which it is located although copies of the same can be located in other libraries for common subjects. Each library has functions and service points that are similar across the system with some having more than others. Mandatory service points are circulation, reserve; Africana, e-resources, cataloguing, periodicals and journals, exit desk, Graduate research section, reference and help desk with others found only at the main library are bindery services and computer department.

In this organisation, only the centre for advanced studies in law and policy is dedicated to the collection of information on environmental studies with a focus on law and policy even though it does have much more on related topics.

This infrastructure presents a challenge in terms of physical location of materials when a user has to move from one physical location to another in search of materials on a subject like environment that is multidisciplinary.

Information Technology Infrastructure

The Library ICT infrastructure ran on the University of Nairobi network. It has the catalogue and digital repository online. The OPAC (online public catalogue) is powered by VSmart which also manages circulation, cataloguing, searches and retrieval and other library function. The digital repository runs online on D-Space, a free access software. The library is networked with all its sub-libraries and branch libraries located in the country. Users' access information from computer access points set up in the libraries and computer laboratories in the various departments. The library has sufficient information technology infrastructure to carry out its mandate.

The staff

The University of Nairobi Library requires trained and adequate staffing to man the many service points. Staffing issues can impede the operations of the library and affect the collection in terms of organisation, total output and service to users. Most staff in the University of Nairobi Library have good academic qualifications ranging from diploma to Masters. They have worked for many years in the library and have gained the requisite experiences and skills.

However, the problem of understaffing continues to bedevil the library. The total number of posts is pegged at 210 of which only about 160 positions filled. This is against a student population of close to 100,000 and over 100 service points conservatively, roughly distributed among the 14 sub-libraries, 4 satellite libraries, and 7 departmental libraries. A simple calculation of 160 staff divided by 90 mandatory service points (approximately 5 for each library unit and 10 for main library) for all sub-libraries, reveal that there are only 1.5 persons per service point and there is inadequate staff to man the mandatory service points and carry out backroom technical services like cataloguing and book processing. It was also noted that there is a high staff turnover because of lack of upward mobility and poor management of the human resources which cause staff to leave or underperform.

Processing of materials

The process attribute mirrored on the tools and how the library processes its materials in order to identify loopholes in the process that would hamper the collection, storage and dissemination of information.

The University of Nairobi Library uses the Anglo American Cataloguing Rules and Library of Congress Schedules. The library also accesses the online services available such as Library of Congress online catalogues, WorldCat catalogues for such tasks. The library is sufficiently engaged online to effectively tap onto all the resources that would make the work of processing and organising the information up to date and to world standards. In the areas of processing tools and capability to organise information on environment, the University of Nairobi library is in conformity with world standards.

In the book ordering process, orders come from the departments and teaching staff and through heads of departments, who forward them to the departmental libraries to order. Previously, the acquisition department did most of the ordering. This new process was meant to ensure that the lecturers and the teaching departments control materials ordered so that they order the most current materials.

However, most academic and teaching staff do not have time to order books and sometimes when they are pushed to order, they give the same list over and over again. They have often complained that the exercise is futile because the books never come or they take too long. It has also been noted that the teaching staff use the same teaching materials and references for many years and they do not have access to publisher's catalogs and brochures to ensure relevant and current materials are ordered.

Material content of the University of Nairobi Library

The library holdings are in the Online Public Access Catalogue (OPAC). All libraries on the network process the materials they buy and receive as gifts or donations and post them online.

The Digital Repository has entries of all grey and unpublished research works, literature on various subjects available at the University's library system. They range from government publications, student's dissertations to articles in peer reviewed journals. The materials are posted on the database, most with full content on PDF. It has a total of **78,316** items in archives, thesis, reports, lectures, speeches, proceedings, and books.

The Library's database as well as the Digital repository was interrogated for common keywords and descriptors, events and conferences in the field of environment.

Table 1: Result of search output of key descriptors from the University of Nairobi Online database and the digital repository.

Keyword	Online Cat	Digital Repository	Formats	Currency and location
	Output	Output		
Environment	2013	7090	<u>OPAC</u> Books, conference proceedings, reports and technical articles. <u>Digital repository</u> Theses, discussion papers, journal articles, research papers, policy reports and speeches.	<u>OPAC</u> Materials ranged from 1967 to 2010 in the OPAC. <u>The digital repository</u> It had more current materials. The materials are located in various sub libraries with the bulk being at the main campus library and Chiromo.
Sustainable development	833	4681		
Ecology	31	10		
Toxicology	16	635		
Conservation	1418	1401		
Environmental Chemistry	4	62		
Remote Sensing	3	1401		
Biodiversity	125	378		
Acid Rain	239	7		
Kyoto protocol	3	400		
Rio conference	73	53		
Brundtland Commission	1	1		
Earth summit	10	3		
Bhopal	0	0		
Alaskan oil spill	0	0		
Oil spill	0	0		
Fukushima	0	0		
Green economy	15	4005		
Environmental law, policy	69	6000		

Publishers

The paper also investigated the publisher's field for renowned publishers on environment and how many publications they had supplied. The publishers who featured in the databases with their output were as follows, Oxford 96, John Wiley, 33, Cambridge University 27, Earthscan 26, Blackwell 22, Kegan Paul /Routledge 22, MacMillan 20, Edward Elgar 17, Springer 13, Taylor Francis 7, Sage 6, UNU 6, Columbia University 3, Elsevier 3, Martinus Nijhoff 1, Kluwer International 1,

The outputs from the publishing houses were small compared to the total number of materials found on both the databases on environmental issues, sustainable development and green economy. It was noticed that most materials are journals and other grey literature like theses and dissertations as well as unpublished grey materials, a good indicator that research work is active around environmental issues and sustainable development.

Currency period

Most of the materials publications dates were in the timelines of 1980s, 1990s and also a big number in the 20s. The earliest outputs were for publications for 1961, 1964, 1975. This is an

indicator that the University of Nairobi Library has on balance a mature collection traversing a wide period of time.

Keywords and descriptors

The study tried to locate materials on epic environmental issues (see table 1) that made it to the world's information arena such as the Fukushima nuclear tragedy, Bhopal gas leak, Niger Delta oil leak and local ones such as the Tana delta eco-system crisis among others. There was none or insufficient representation in the database even for local situations such as the Budalangi floods, the Kano plain floods and none at all for the Sachagwan tragedy. The recurring question being that, if the country would have an incident similar to that of the Bhopal gas tragedy, it means, there is no reference point from the University of Nairobi library databases.

Databases and external database

The library subscribes to external databases on the subject matter and among a long list, the notable ones for environmental issues were Cabi online, JSTOR, Edward Elgar, OECD, Oxford University Press, Sage, Taylor and Francis, Wiley Online, Agora, Lexi Nexis, Heinonline, Beech tree publishing among others. Although many of them are free databases while others have restrictions on how much one can access, when the list was compared to lists of top environmental sciences databases, there was a gap. However, the library is at a commendable stage.

Linkages and networks

All environmental bodies and organisations become important networks for the university and portends areas of forging relationships in terms of sharing knowledge and information. NEEMA is the governing body mandated with environmental issues in the country. UNEP is another big name in environment and networking and linkages here is vital. Other NGOS, CBOS and non-profit making bodies are also important for sharing information. Sharing is an important component of sustainable development as costs and burden are reduced when resources are shared. Thus the need for the library department to actively participate to access and share information resources to provide that solid source of information that user can rely on in helping make informed decisions on environmental issues. In this respect, working closely with other departments in the university that are focused in the same area in order to tap their network portfolio could be a useful endeavour.

Findings

The investigation found out that the university of Nairobi library has critical knowledge gap in the area of environment. It noted the absence of critical information on key environmental issues and topics. The top publishers output was equally low on environmental issues.

The knowledge gap largely created by the book ordering process where they lack proper plans to get teaching staff to commit to book ordering process, subject librarians to monitor and develop marginalized collections, strategies to push for easier procurement process calls for urgent intervention.

The paper also established that the library is understaffed to a level critical enough to blackout many subject discipline. With only a few overstretched staff struggling to man mandatory service points, little can happen to trigger off real change in terms of information acquisition, storage, organisation and dissemination in the vital area of environment, sustainable development and green economy.

There was lack of aggressiveness in utilizing and exploiting networking and linkages which can help to improve the existing gaps in the collection and service to the users. Accessibility to the internet and ICT technologies often can offer simple solutions to facilitate and empower staff to aspire to be innovative in the way they do their work. However, without adequate training and motivation, inspiration expires.

The findings also showed that the library has an excellent infrastructure physically, in the ICT as well as staffing. It also has a massive knowledge base that is historical as well as current and for this it has a huge potential to execute its mandate fully.

Recommendations

It is recommended that lecturers and teaching staff be actively engaged in the book order process. Book catalogs and brochures should be brought to their attention and it should be compulsory for them to order books as much as to teach. A mixture of subject librarians and teaching staff and researchers working together would give the best mix for the latest development in the field of environmental disciplines. Teaching staff who attend conferences should be encouraged to come back with new information materials and brochures. Such endeavours have proved to be effective in helping to make useful addition to a collection by the likes of Professor C.O Okidi, a renowned environmental author who never fails to bring materials from Conferences to the library.

Open days on ‘environment, sustainable development and green economy information day’ can be a unique effort to attach a special day dedicated to having special display books and brochures where researchers can be asked to come and order books that can be fast tracked to fill the gaps. A subject Librarian can be deployed to research on contents of databases and provide links and hyperlinks. Building of bibliographic lists and bibliographies would prove a useful endeavour. As the country turns to devolved governments, the workers and libraries must prepare to give information not only to a centralized government but also to county governments.

The need to adapt a more proactive procedure means making effective use of the internet to help fill the gap by the acquisition department which can liaise with publishers for their catalogs and marketing tools which can then be forwarded to those ordering books. The acquisition librarians can also take advantage of searching online resources for publications which they can then draw to the attention of the very busy lecturers.

Creating direct links and hyperlinks to databases and sites with relevant information and integrating them into their online databases is an innovative way of introducing keywords and descriptors that are important in a subject.

The University Library need to adopt a better staff management, training and motivation programmes in order to provide the much needed incentive for better staff performance and retention. The library staff can be mix of people from many subject disciplines who work together for a common endeavour. The mix should also include various levels of training both industries as well as in other disciplines. ICT training for all levels of staffing should be the ultimate goal.

Conclusions

This paper has investigated the University of Nairobi library to evaluate its capacity and ability to serve information users effectively in the subject area of environment, sustainable development and green economy by inspecting the current and existing materials in the subject areas against set parameters. It has gone further to attribute the result to the way the library has carried its operations, activities and process in the acquisition, organisation, storage and dissemination of information and that the given structure is anchored on the libraries' preparedness to cope with upcoming developments.

The recommendations offered are based on the findings and are by no means the only ones. They took into consideration the fact that the University of Nairobi library has a big presence online and has adopted ICT to drive its operations in helping achieve its mandate. The University of Nairobi is a leading institution in higher education that the society looks up to and therefore, the library must aggressively utilize all the tools it has to facilitate access to information and fulfil its role and mandate to engage and pick momentum needed to be relevant to the cause of green transformation and environmental sustainability for the society.

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