

# Gateway or Obstacle Course: A survey of selected African library websites

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## **Abstract**

*Surveys have shown that for many students and researchers, the first port of call for information is a search engine rather than the library website or online catalogue. Even fewer actually enter the physical library building to consult a librarian. In an increasingly digital world, physical access is not necessary to benefit from the services offered by the library, and indeed, many users who may take advantage of access to e-resources may not even be aware that the service is actually delivered by the library. Clearly libraries cannot compete with search engines in terms of quantity of information, but they certainly can provide access to quality information and to resources not always accessible via the Web. They can provide subject guides, information about local collections both print and digital, local operational information, and potentially a whole wealth of information that is specific to their needs. The problem is to make the library website as simple and intuitive to navigate as possible while providing the breadth and depth of information appropriate to the research community. While there are many features that make a library website excellent to use, there are equally many aspects that may make it difficult and unappealing to use, and which may deter the user from fully exploiting its functionality.*

*INASP (the International Network for the Availability of Scientific Publications) currently works with over 700 institutions in 13 countries of sub-Saharan Africa. We negotiate with international publishers for country-wide access to e-resources at free or deeply discounted prices. Unfortunately, availability does not necessarily equate to access and use. We have therefore recently begun surveying a selection of library websites from these countries, to explore whether they are positively promoting access and serving the wider goals of the library, or whether they are rather acting as an obstacle course, hindering the achievement of these objectives. A detailed evaluation checklist (which will be described in the presentation) has been developed for this purpose. Although the survey is on-going and will not be completed until October 2012, the presentation will summarise some of the preliminary findings and make recommendations.*

## **Introduction**

INASP ([www.inasp.info](http://www.inasp.info)) is the International Network for the Availability of Scientific Publications. It was established by the International Council for Science (ICSU) in 1992, as a direct response to a study on how to meet the information needs of scientists in the developing world. INASP has been registered as a charity in the United Kingdom since 2004.

INASP's vision is simple: effective access, use, dissemination and communication of information are key drivers of democracy, good governance and poverty reduction.

Through our Programme for the Enhancement of Research Information (PERii) INASP supports capacity building in the university and research sector in developing and transitioning countries by strengthening the production, access and dissemination of information and knowledge. Working in every part of the research communication cycle from (availability, access, use, research and dissemination) we offer a multi-dimensional approach across four programme areas: Information delivery (e-journal licensing and negotiation), Library and ICT development, Publishing and Evidence-informed policy making.

INASP works closely with libraries to strengthen existing skills and capacity to access, use and disseminate information. We help to equip librarians with appropriate skills to support scholarly research and communication, recognising that the changing environment demands constant re-skilling of staff (i.e. capacity building) and we help libraries create the infrastructure to enable them to deliver services in the digital library environment and provide integrated management of digital resources

### ***Growing knowledge***

The initial impetus for our study of African library websites came from the report entitled *Growing knowledge: access to research in east and southern African universities* (London: Association of Commonwealth Universities, 2010).

This report surveyed e-journal access in four major universities in Malawi, Kenya, Rwanda and Tanzania and essentially concluded that the availability of electronic journals was comparable to typical universities in the UK and Sweden. The top 20 journals in 15 disciplines were identified and it was found that on average 79% (238 titles) were available (compared to 95% in two typical European universities). Yet researchers and academics nevertheless claimed they do not have access to the latest literature in their fields. Indeed, of the 373 journals identified by researchers as not being available, some 270 (72%) could actually be accessed.

The report suggested several reasons for this general lack of awareness about e-journal availability:

- Academic reading cultures have been eroded – used to nothing being available, libraries being empty
- Low levels of research being done, so little reason to read
- Lack of time (teaching), lack of funding, lack of incentives, lack of writing/publishing skills
- Older academics unfamiliar with online environment – so don't encourage students to use it
- Not well skilled at searching and navigating
- 'Can't get in' – authentication and access
- Relying on Google – not discovering the subscription content; low use of specialist indexes/search facilities
- **Library websites/portals – underdeveloped**

The impetus to initiate this research was the reference above to underdeveloped library websites. The report noted:

*“Library websites are relatively underused as access points to actual resources: just a third (34%) use the library website to access journals, compared to 70% who use Google. The low use of library websites is likely to be responsible for the under-discovery and under-use of subscription resources already noted” (p.32)*

The report concludes:

*“Good library websites are critical to providing access to electronic resources. Without an easily navigable and well-presented website, users have no means of identifying what the library provides and will struggle to gain access to the subscription resources which the library has purchase” (p.32)*

## **Methodology**

With these findings in mind, it was decided to conduct a wider analysis of library websites in our partner countries. INASP currently works with over 1,600 libraries which are registered for access to negotiated e-journals. Of these nearly 700 are in our 13 African partner countries. In order to arrive at a manageable sample it was decided: (a) to restrict the survey to our 10 (essentially Anglophone) African partner countries; (b) to limit the surveyed sites only to universities, colleges or polytechnics; (c) to exclude independent research institutes; (d) to exclude government ministries or agencies.

In the event the total number of websites reviewed was 200. The country breakdown is as follows:

Ethiopia	24	Rwanda	15
Ghana	23	Tanzania	40
Kenya	46	Uganda	20
Lesotho	1	Zambia	10
Malawi	6	Zimbabwe	15

The primary objective was to explore the degree to which the libraries provided access to e-journals and other online databases and free resources. However, recognising that the website serves multiple functions, a checklist was devised to enable assessment in other areas also.

In the present digital environment a library website serves many discrete functions, but in broad terms it is essentially the virtual gateway to the library. In the age dominated by print resources library users had literally to enter the door of the library to benefit from its resources and services. Today this is no longer necessary.

There is a growing professional research literature on library websites but, perhaps not surprisingly owing to the great potential breadth of the research area, studies tend to concentrate on specific aspects of the website such as “how they communicate mission”<sup>1</sup>; “how they contribute to marketing and advocacy”<sup>2</sup>; “how they serve faculty members”<sup>3</sup>; “presence of Web 2.0 features”<sup>4</sup>. Other studies concentrate on usability<sup>5</sup>, especially in relation to means of improving an individual institution’s website<sup>6</sup>. These studies may involve user participation<sup>7</sup> or may adopt an “expert panel” approach.

For the purpose of this research the authors developed a checklist based primarily on functional criteria as identified in some of the research studies noted above. The checklist can be found at Appendix 1. Given the breadth of this survey it was not possible to devote attention to certain aspects relating to “quality. There are numerous ways of assessing the quality of a library website”<sup>8</sup>. For example one may consider the language used (clear, jargon-free, consistency of terms, short sentences, etc.), the web structure and design, graphics, etc., but the emphasis of this study was essentially on function and content.

The first section of the checklist simply notes whether or not the main institutional website provides a link either to the library website or to the e-resources available

The second section considers some general aspects of the library website (presence of “About us” or mission statement; navigation; site map; whether or not a single site search is possible; date of last update, etc.)

The third section assesses the extent to which e-resources can be accessed through the website, and if so, the access methods (e.g. by publisher, subject, title etc.), and the breadth of materials accessible (e.g. OPAC, e-journals, institutional repository;

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<sup>1</sup> Kuchi, T. Communicating mission: an analysis of academic library web sites. *Journal of academic librarianship*, v. 32 (2), 2006, 148-154

<sup>2</sup> Welch, J.M. The electronic welcome mat: the academic library web site as a marketing and public relations tool. *Journal of academic librarianship*, v. 31 (3), 2005, 225-228

<sup>3</sup> Gardner, S.J., Juricek, J.E. & Xu, F.G. An analysis of academic library web pages for faculty. *Journal of academic librarianship*, v.34 (1), 2008, 16-24

<sup>4</sup> Mahmood, K. & Richardson Jr., J.V. Adoption of Web 2.0 in US academic libraries: a survey of ARL library websites. *Program*, v. 45 (4), 2011, 365-375. Also: Chaua, A. Y. & Dion, H. G. A study of Web 2.0 applications in library websites. *Library Hi Tech*, v.27 (3), 393 - 402.

<sup>5</sup> Joo, S., Lin, S. & Lu, K. A usability evaluation model for academic library websites: efficiency, effectiveness and learnability. *Journal of library and information studies*, v. 9 (2), 2011, 11-26.

Chen, Y-H, Germain, C.A. & Yang, H. An exploration into the practices of library web usability in ARL academic libraries *Journal of the American Society for Information Science and Technology*, v. 60 (5), 2009, 953-968

<sup>6</sup> Swanson, T.A. & Green, J. Why we are not Google: lessons from a library web site usability study *Journal of academic librarianship*, v.37 (3), 2011, 222-229

<sup>7</sup> Emde, J.Z., Morris, S.E. & Claassen-Wilson, M. Testing an academic library website for usability with faculty and graduate students. *Evidence based library and information practice*, v. 4 (4), 2009, 24-36 (see: <http://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/6380>)

<sup>8</sup> Poll, R. Assessing the quality of library websites. Paper presented at the 71<sup>st</sup> IFLA World Library and Information Congress, Oslo, Norway, 14-18 August, 2005. Also Poll, R. Evaluating the library website: statistics and quality measures. Paper presented at the 73<sup>rd</sup> IFLA World Library and Information Congress, Durban, South Africa, 19-23 August, 2007

external resources). At the same time we looked at related aspects such as links to local consortium resources, information about remote access, help screens etc.

In the fourth section we explored the use (if any) of Web 2.0 tools such as links to Facebook and Twitter, the availability of RSS, presence of a library blog, and optimistically, the embedding of a virtual library tour, and /or links to webinars or podcasts.

The fifth section covered administrative aspects of the site such as library address, staff list with email addresses, opening hours, descriptions of the collections, message from the Director, Library news, etc.

In the sixth section we attempted to examine which services were offered through the website – reference help/Chat/Ask a librarian; links to training workshops and materials; library (subject) guides; new acquisitions lists; services to specific groups (e.g. faculty, alumni etc.)

The final section of the checklist was somewhat less tangible and more subjective in which we considered aspects such as page clutter, excessive scrolling, consistency of house style, attractiveness of the fonts, colour scheme, excessive use of flashing objects and pop-ups etc. These aspects will not be discussed in this article.

## ***Findings***

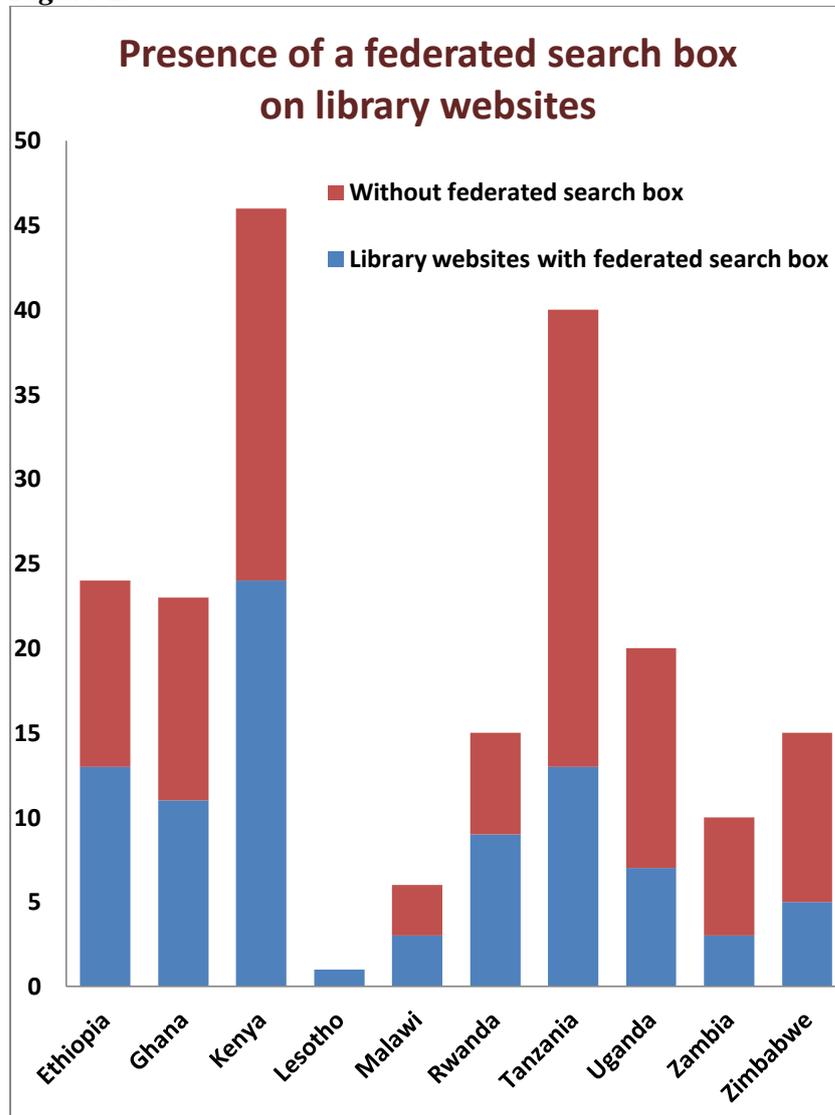
***Table 1***

	<b>Link to e-resources on institutional website</b>	<b>Library website available (static in parentheses)</b>	<b>Single search box on library website</b>	<b>Presence of FAQ/help</b>
<b>Ethiopia (24)</b>	<b>5</b>	<b>19 (10)</b>	<b>13</b>	<b>0</b>
<b>Ghana (23)</b>	<b>7</b>	<b>17 (4)</b>	<b>11</b>	<b>5?</b>
<b>Kenya (46)</b>	<b>26</b>	<b>43 (3)</b>	<b>24</b>	<b>22</b>
<b>Lesotho (1)</b>	<b>0</b>	<b>1 (0)</b>	<b>1</b>	<b>1</b>
<b>Malawi (6)</b>	<b>1</b>	<b>4 (0)</b>	<b>3</b>	<b>0</b>
<b>Rwanda (15)</b>	<b>1</b>	<b>14 (8)</b>	<b>9</b>	<b>0</b>
<b>Tanzania (40)</b>	<b>6</b>	<b>29 (8)</b>	<b>13</b>	<b>3</b>
<b>Uganda (20)</b>	<b>4</b>	<b>15 (7)</b>	<b>7</b>	<b>3</b>
<b>Zambia (10)</b>	<b>2</b>	<b>7 (1)</b>	<b>3</b>	<b>1</b>
<b>Zimbabwe (15)</b>	<b>7</b>	<b>13 (2)</b>	<b>5</b>	<b>3</b>

Most of the institutional websites provided a link to the library website although, as can be seen in Table 1, relatively few offered a link to e-resources (59/200 or 29.5%)

While most institutions had developed a dedicated library website (162/200 or 81%), there were still 38 (19%) with no library website presence. Surprisingly of the 162 library websites 43 of them were static (i.e. one page only with no active links to resources or services).

**Figure 1**



As apparent in Figure 1, single Google-type search boxes allowing users to retrieve information across the website were not as much in evidence as one might have assumed (89/200) – despite the fact that research has shown that students love the simplicity of Google and “will no longer tolerate anything more complex than a single search box and a single, integrated result set.”<sup>9</sup> However, it must be said that the

<sup>9</sup> Wood, R. From federated search to the universal search solution. *The Serials Librarian* v. 58, 2010, 141-148

presence of a single search box does not necessarily provide a panacea, and that users may benefit more if the site offers “clear guidance to search tools and an indication of the types of results that these tools would yield”.<sup>10</sup>

**Table 2**

	Access to e-journals	Access to e-books	OPAC direct access	OPAC (no link)	Access to Open Access resources	Access to institutional repository	Access to external resources	Access to consortium website
<b>Ethiopia (24)</b>	6	4	4	4	4	3	3	1
<b>Ghana (23)</b>	13	1	8	1	9	7	3	0
<b>Kenya (46)</b>	38	24	20	8	24	7	9	3
<b>Lesotho (1)</b>	1	1	1	0	0	1	0	0
<b>Malawi (6)</b>	5	1	5	0	3	1	1	0
<b>Rwanda (15)</b>	5	4	2	2	2	0	2	0
<b>Tanzania (40)</b>	13	7	8	4	11	2	7	0
<b>Uganda (20)</b>	8	2	3	6	3	1	1	1
<b>Zambia (10)</b>	5	1	2	0	2	2	0	0
<b>Zimbabwe (15)</b>	10	10	9	0	8	7	1	2

While 38 of the 46 Kenyan library sites provided access to e-journals only 8/20 (Uganda), 6/24 (Ethiopia) and 13/40 (Tanzania) offered this access. With 4 notable exceptions all the websites offering e-journal access did so indirectly via the publishers’ websites and not through any A-Z listing. The University of Nairobi and the University of Ghana did offer an A-Z listing, while the National University of Science & Technology in Zimbabwe (NUST) and Kabarak University in Kenya offered a customised Google search whereby users could search across databases for individual journal titles.

Kenyan library websites were generally more advanced insofar as linkage to e-resources (24/46 to e-books; 20/46 to OPAC; 24/46 to Open Access material, either listed alongside subscribed e-journals or referred to separately.

<sup>10</sup> Swanson, T.A. & Green, J. Why we are not Google: lessons from a library web site usability study *Journal of academic librarianship*, v. 37 (3), 2011, p. 223

*Figure 2: Types of e-resources available from library websites*

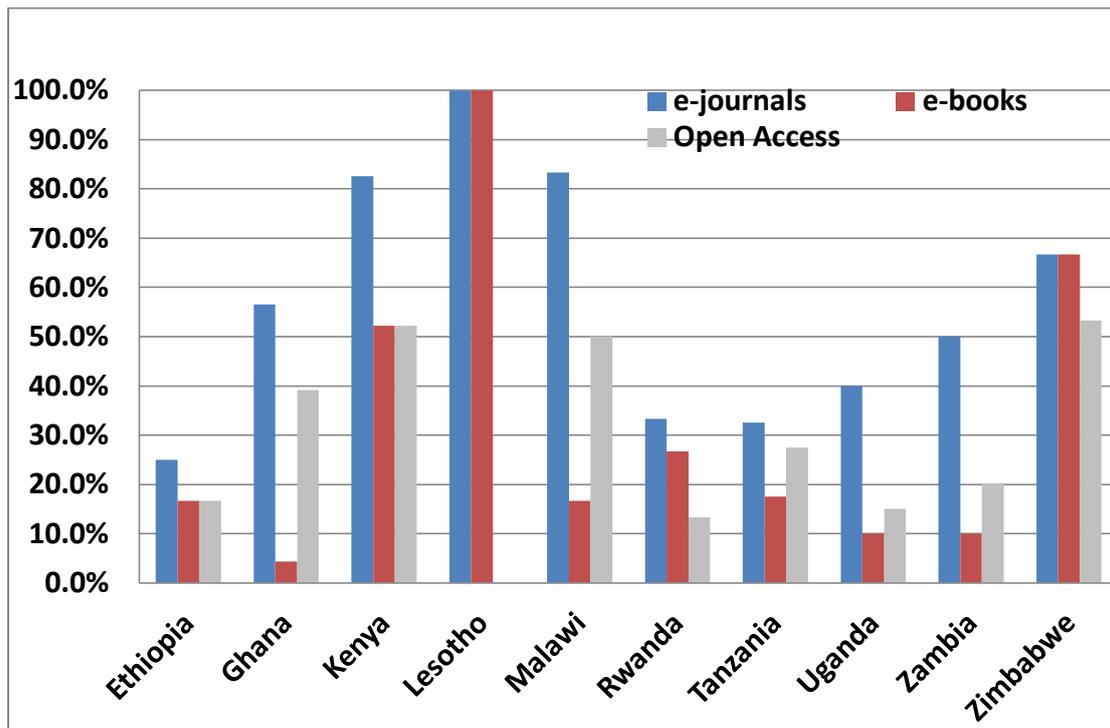


Figure 2 provides more detailed information on the types of e-resources available in other countries. By contrast 8 /23 Ghanaian library websites offered OPAC access. However in half of these the link was not active or could not be displayed; only 3 institutions had functional, quick-to-load OPAC links (1 was not accessible unless logged on). It is appreciated that for many institutions the relatively low level of OPAC linkage simply reflects the absence of a functioning online catalogue.

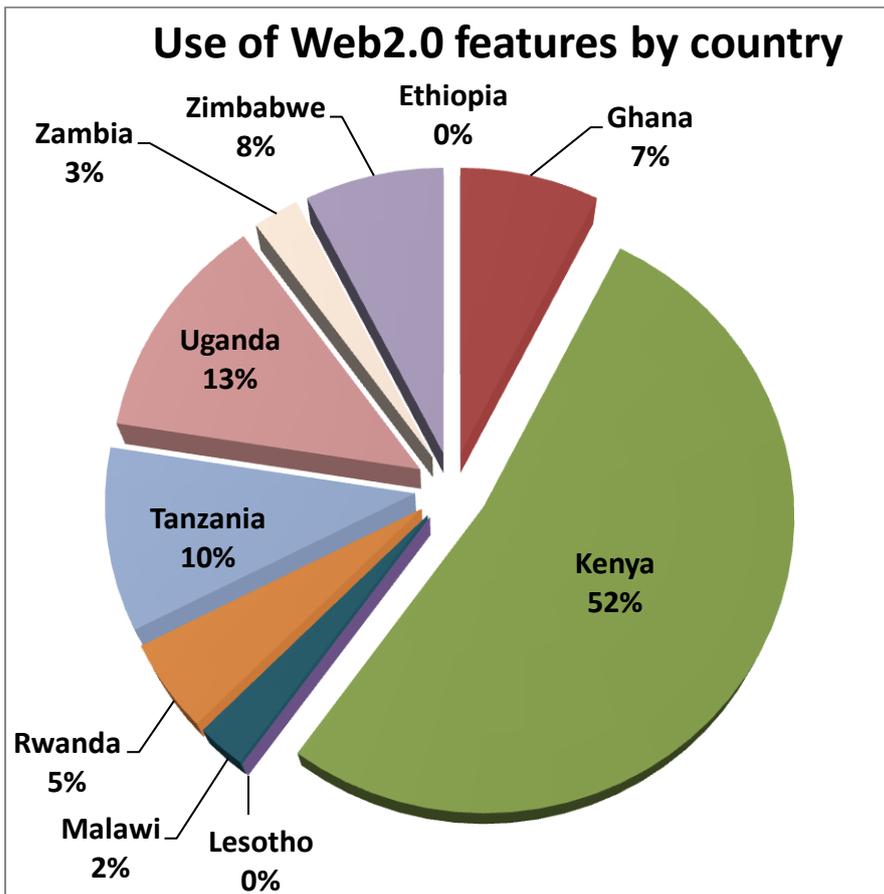
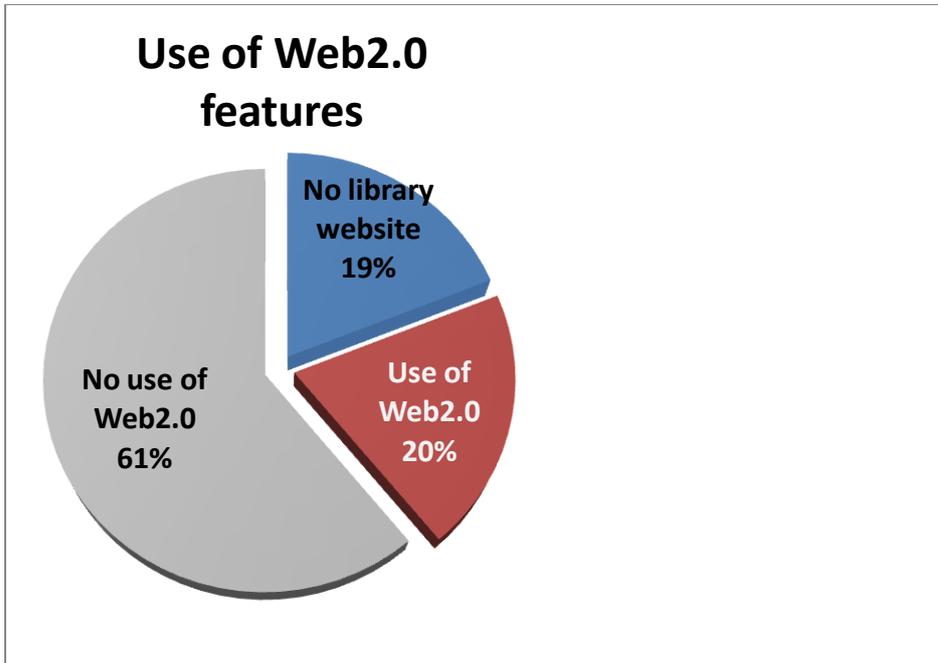
Access to the local institutional repository also varied (depending necessarily on whether or not the institution actually has a working repository). Ghana, Kenya and Zimbabwe were better in this respect than Rwanda, Tanzania or Uganda.

Surprisingly, despite the development of strong library consortia in most of the countries (COTUL in Tanzania; KLISC inn Kenya; CUUL in Uganda; CARLIGH in Ghana, CEARL in Ethiopia, ZALICO in Zambia, ZULC in Zimbabwe) there were surprisingly few links to the consortium website. This is a potentially useful feature for many reasons: users should be encouraged to check the catalogues of consortium member libraries if their home library does not contain the materials they seek, with a view to ILL or other reciprocal lending arrangements between consortium members.

Web 2.0 functionality is increasingly being adopted in libraries as it is rightly seen as a way not only of reaching new users, involving them and seeking feedback but also achieving this via the virtual space that younger users now populate. The survey by Mahmood and Richardson of ARL websites (above) found that the most commonly used Web 2.0 features were RSS feeds (99/100), instant messaging, social networking

sites (89/100 had a Facebook page), blogs and micro blogs (85/100 had a Twitter account). The findings in our survey were low by comparison.

*Figures 3 and 4*



Overall 122 (61%) of the 200 institutions surveyed made no use of Web 2.0 features. Of those that did, Kenya was the most prolific user, But even here, only 8 institutions had an RSS feed or any form of messaging, and although 28 of the 46 institutions had both Facebook and Twitter accounts, only 15 of these were actual library as opposed to institutional accounts. In Tanzania only 1 of the 40 libraries surveyed had an RSS feed, Twitter and Facebook account. In Malawi no libraries had either a Twitter or Facebook presence.

**Table 3**

	Library address	Contact information	Opening hours	Staff list (contact information)	Links to annual reports/ strategic plans	News and events	Message from the Director
<b>Ethiopia (24)</b>	11	11	10	2 (1)	0	1	0
<b>Ghana (23)</b>	7	12	14	6 (3)	3	4	1
<b>Kenya (46)</b>	16	24	33	12 (7)	2	7	10
<b>Lesotho (1)</b>	1	1	1	1 (1)	0	1	0
<b>Malawi (6)</b>	3	3	3	2 (1)	0	2	1
<b>Rwanda (15)</b>	1	3	10	0 (0)	3	2	1
<b>Tanzania (40)</b>	7	9	18	8 (6)	1	4	1
<b>Uganda (20)</b>	3	6	8	3 (2)	0	3	1
<b>Zambia (10)</b>	1	2	5	2 (1)	0	2	1
<b>Zimbabwe (15)</b>	7	7	10	5 (4)	1	7	0

Websites serve not only as gateways to resources and collections but also provide the library with an opportunity to disseminate information about itself. We found that libraries, on the whole provide a reasonable amount of basic administrative information, but even here, the picture is uneven and in some cases, unexpected. Surprisingly few libraries gave details of their physical address (16/46 Kenya; 7/40 Tanzania; 7/15 Zimbabwe). More, though not all provided contact information, and opening hours. But sometimes (as in the case of Rwanda) contact information was restricted to details of the Head Librarian rather than to other staff (3/15).

With so many changes besetting libraries today it is increasingly important to communicate to stakeholders the library's mission, strategy and responses to the changes. Linkage to annual reports and strategic objectives are not only a good way of ensuring accountability but also potentially increase stakeholder confidence in the library. In the survey conducted by Kuchi in 2010 (cited above) 78% of ARL members had a mission statement on their websites.

In this present survey messages of welcome from the Director were relatively scarce, while any links to mission statements, annual reports, future plans or other public strategic documents were rare (0/24 Ethiopia, 1/40 Tanzania; 1/15 Zimbabwe; 3/15 Rwanda).

One of the most disappointing aspects of our findings was in relation to services offered via the websites (see table 4 below):

**Table 4: Library services**

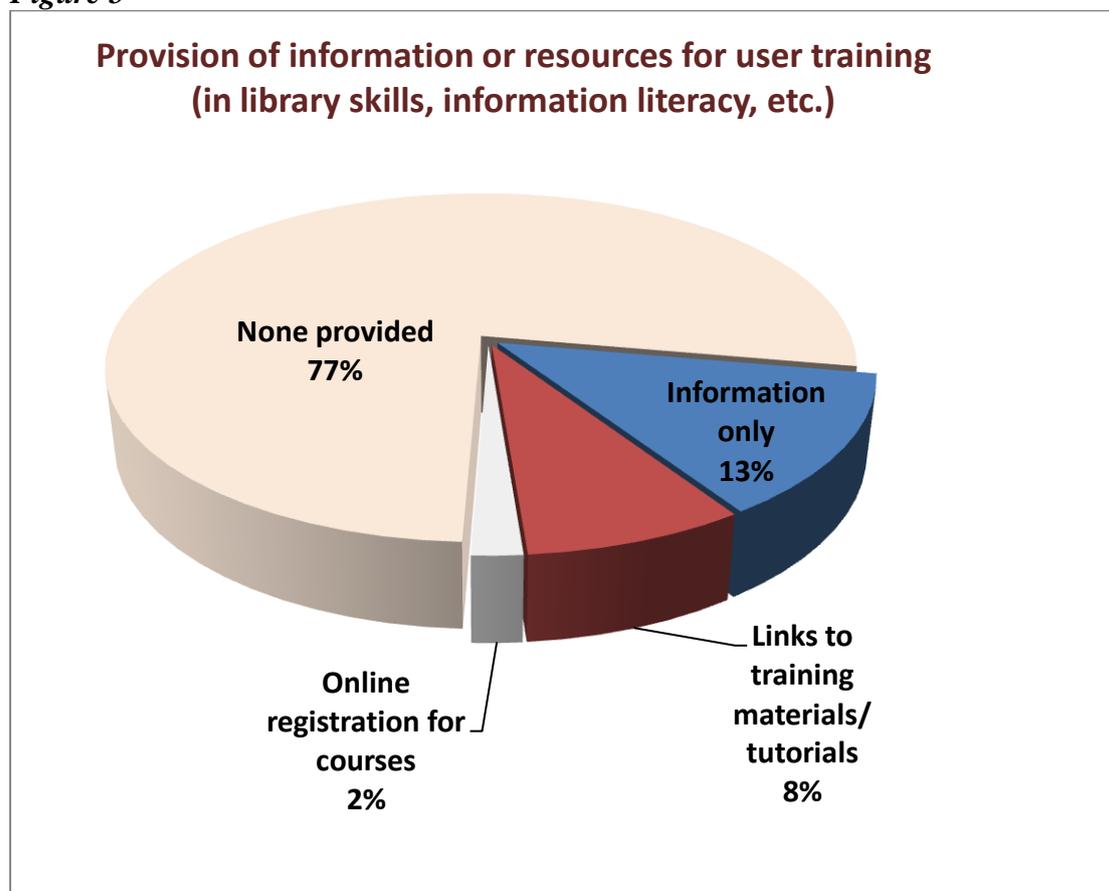
	Reference help/Ask a librarian/Chat	Training information	Links to training materials or workshops	Register for training events	General library guides	Subject guides	Acquisition lists / new books	Request forms for purchases
<b>Ethiopia (24)</b>	1	2	1	0	2	0	1	1
<b>Ghana (23)</b>	4	5	4	0	2	0	3	1
<b>Kenya (46)</b>	14	17	4	3	6	0	2	2
<b>Lesotho (1)</b>	1	0	0	0	0	0	0	0
<b>Malawi (6)</b>	1	0	0	0	1	0	0	0
<b>Rwanda (15)</b>	0	0	0	0	0	0	0	0
<b>Tanzania (40)</b>	7	4	2	0	5	2	4	0
<b>Uganda (20)</b>	2	3	1	0	1	0	0	0
<b>Zambia (10)</b>	1	0	0	0	0	0	1	0
<b>Zimbabwe (15)</b>	4	6	1	0	1	2	0	1

With the growth of numbers of distance learners who are rarely able to visit the library, it is important that the website makes available as much online instruction, training materials, reference information, research guides, and help facilities as possible. The importance of this function has been emphasised in a recent study<sup>11</sup>.

As can be seen in table 4, Kenya was the most advanced in these areas. 14/46 offered some kind of help platform, either in the form of live chat systems or “Ask a Librarian” online forms that can be completed and submitted online. 17/46 provided information on training with 4/46 library websites hosting training materials that could be downloaded, or providing links to training resources. 3/46 allowed online registration for/enquiries about training sessions. 6/46 also offered services/resources aimed at faculty or researchers (e.g. guides on copyright issues, referencing, information literacy, and booking of study rooms).

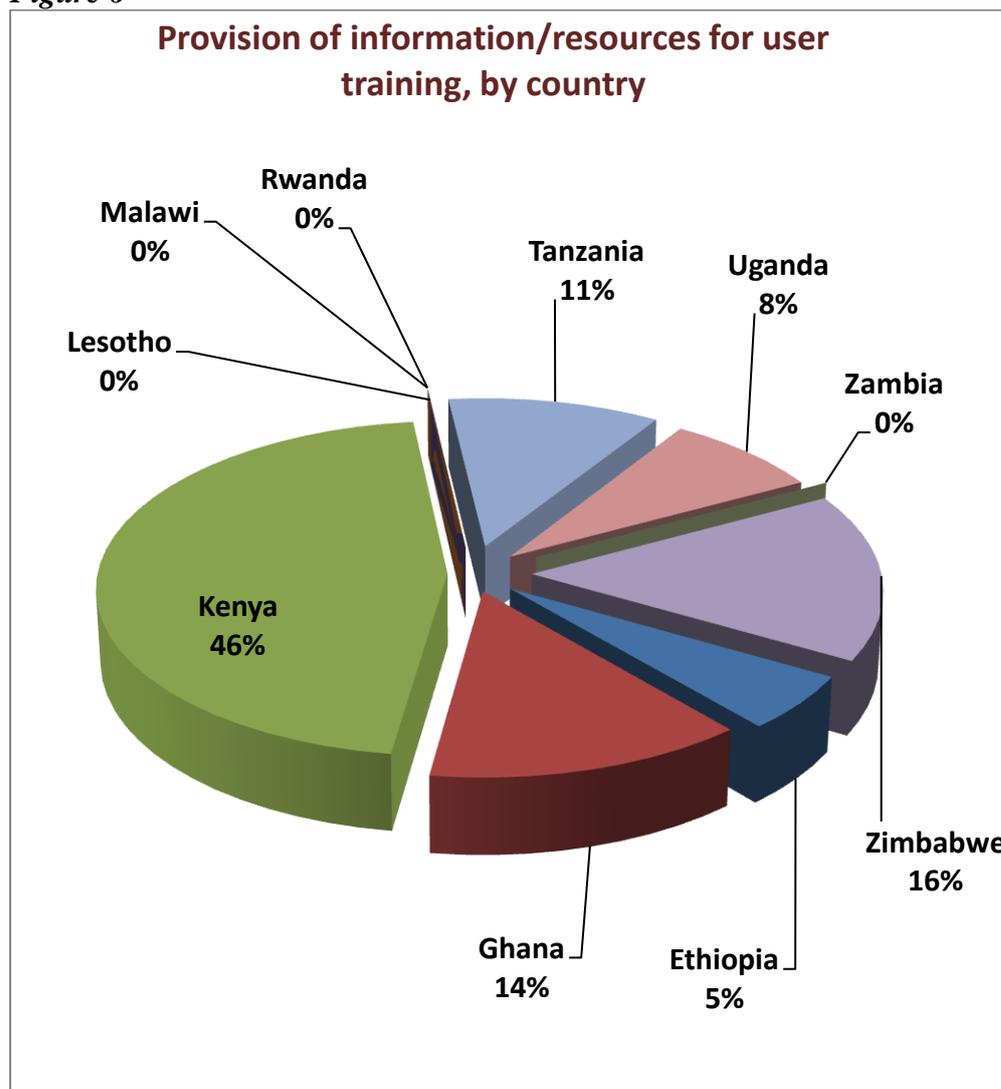
The Figures below provide more detailed information about information or resources available for user training.

**Figure 5**



<sup>11</sup> Wickramanayake, L. Instruction and help services in the academic library websites and web pages in Sri Lanka: a content analysis. *The Electronic Library*, v. 30 (3), 2012, 377-389

**Figure 6**



### ***Conclusions and recommendations***

Websites are continuously evolving and it is acknowledged that this survey of 200 library websites in 10 Sub Saharan countries can only represent the situation at a specific moment in time. However on the basis of the above website evaluations it is reasonable to assume that the results obtained are an accurate and plausible summary of the current situation. Details of the institutions surveyed to date are listed in Appendix 2.

With some notable exceptions it would not be unfair to suggest that academic library websites in the countries surveyed are lagging behind in their exploitation of the full potential of the library portal or gateway.

They have not yet fully begun to reflect the challenges posed both by the growth of remote/distant learners and by the growing numbers of online users. There needs to be a greater recognition of the role of the website in the learning and research process.

There needs to be more emphasis on training materials and subject guides, and greater use of Web 2.0 tools needs to be considered (e.g. Facebook for marketing of services, Twitter for micro-blogging of news and announcements). But perhaps most significantly, access to the growing volume of e-journals need to be improved. Almost every site surveyed provides access by publisher only, and a few attempt to divide these by subject – but this approach is of little use to the searcher who is seeking an article from a very specific named journal. S/he does not care who publishes the journal, or whether it is available by subscription or open access. The provision of a simple A-Z listing of all available journals would probably be the single largest improvement to the websites and would be the single largest contributor to the increased usage of expensive electronic resources.

If the situation is to improve it is apparent that more training in web design and development is needed. This needs to be a collaborative effort between technical staff and the librarians who can provide the relevant content. In light of the rapid changes taking place in the digital environment in which libraries work, websites cannot afford to be static, but rather fluid, responsive and dynamic. There needs to be dedicated staff devoted to its upkeep (or the work perhaps need to be formally distributed within the library). They need to be regularly reviewed, their usability needs to be tested and their content evaluated and updated as necessary. Examination of the websites of comparator institutions both in the country and beyond should also be undertaken to get new ideas and stimulus. This needs to be done not simply by library staff, but in collaboration with users and other stakeholder groups. The most successful websites are likely to be those that are user-centred, and which offer information that users are seeking.

To return to the original question: “gateway or obstacle”, it is clear that the very absence of a library website in 19% (38 of the 200 institutions surveyed) does indeed pose a serious obstacle denying the members of those institutions online access to the library’s services and collections. At the other extreme a very small number of websites successfully fulfilled the gateway role, though even in these cases there were serious lacunae. But for the majority of websites the gateway was only partially open and, to extend the analogy, the hinges needed a great deal of lubrication.

There is increasing competition from commercial competition and if libraries are to compete successfully they must provide robust websites (or sophisticated guidance systems) which “create a virtual environment which offers value-added service and support users across a wide spectrum of information seeking behaviour”<sup>12</sup>.

6 September 2012

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<sup>12</sup> Detlor, B. & Lewis, V. Academic library web sites: current practice and future directions. *Journal of academic librarianship*, v. 32 (3), 2005, 251-258

<b>INSTITUTION NAME:</b>					<b>URL</b>
<b>COUNTRY:</b>					
	<b>Home</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>Notes</b>
<b>1. Institutional web page</b>					
• Link to library page					
• Link to e-resources					
• Other					
<b>Library website</b>	<b>NAME:</b>				<b>URL</b>
<b>1. Lib. website: General</b>	<b>Home</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>Notes</b>
a. About us / Admin / Mission					
b. Link to inst. parent site					
c. Help tools / subject specific?					
d. FAQs					
e. Feedback possible					
f. Can search whole site through one search box					
g. Site map					
h. Date of last update					
i. General speed					
j. Can return to home page					
k. Can go back to prev. page					
l. Link to campus admin system, VLE					
m. Can customise/personalise					

<b>2. Lib. website: Links to resources</b>					
a. OPAC					
b. E-journals					
c. E-books					
d. A-Z listing					
e. Institutional repository					
f. Resources from other libraries					
g. Open Access resources					
h. Link to local consortium					
i. Other: e.g. Include subject coverage Access method explained? Info on remote access? Links to database help? Subject listing of e-resources?					
	<b>Home</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>Notes (including up-to-date/functional?)</b>
<b>3. Lib. website: Web2.0 apps</b>					
a. RSS feed available					
b. Live chat / instant messaging					
c. Presence on Facebook					
d. Presence on Twitter					
e. Use of Flickr					
f. Use of Slideshare					
g. Use of blogs					
h. Virtual library tour					
i. Other...					

	Home	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	Notes
<b>4. Library website: Admin info.</b>					
a. Library address					
b. Contact info (email, maps)					
c. Opening hours					
d. Staff list/directory of departments (email / tel. numbers)					
e. Description of collections					
f. Annual reports / strategic plan / other publications					
g. Library news (e.g. tours, events, exhibitions)					
h. Message from the Director					
i. Links to Friends groups, Donations					
j. Procedural rules (lending/photocopying)					
	Home	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	Notes
<b>5. Library website: Services</b>					
a. Separate sections for different groups of users					
b. Reference help / Chat / Ask a librarian					
c. Information on training					
d. Links to training workshops / training materials					
e. Remote registration for courses					

f. Library guides					
g. ILL					
h. New acquisitions lists					
i. Services to faculty / researchers e.g. a. Copyright b. Remote access help c. Online room & course bookings					
	<b>Notes</b>				
<b>6. Other (less tangible)</b>					
a. Bright / unattractive colours					
b. Pop-ups					
c. Flashing objects					
d. Pages too cluttered					
e. Too much scrolling to see each screen					
f. Consistency of house style					
g. Assistive technology tools					
h. Accessible reader-focused language					
i. Other					

## Appendix 2: The 200 Universities Surveyed

### ***Ethiopia***

#### *24 Institutions surveyed*

- Adama Science and Technology University
- Adigrat University
- Addis Ababa University
- Aksum University
- Alpha University College
- Ambo University
- Arba Minch University
- Bahir Dar University
- Debre Berhan University
- Debre Markos university
- Dilla university
- Dire Dawa University
- Graduate School of Telecommunication and Information Technology
- Haramaya University
- Hawassa University
- Jijiga University
- Jimma University
- Mizan-Tepi University
- Mekelle University
- Samara University
- University of Gondar
- Wolaita Sodo University
- Wollega University
- Wollo University

### ***Ghana***

#### *23 institutions surveyed*

- Accra Polytechnic
- Ashesi University College
- Catholic University College of Ghana
- Central University College
- Dominion University College
- Garden City University
- Ghana Institute of Management and Public Administration
- Institute of Professional Studies
- Kumasi Polytechnic
- Kwame Nkrumah University of Science and Technology
- Maranatha University College
- Methodist University College Ghana
- Noguchi Memorial Institute for Medical Research
- Pentecost University College

- Presbyterian University College
- Regional Maritime University
- University for Development Studies
- University of Cape Coast
- University of Education, Winneba
- University of Ghana
- University of Mines and Technology
- Valley View University
- Wisconsin International University College

***Kenya***

*46 institutions surveyed*

- Africa International University
- Africa Nazarene University
- Aga Khan University
- Bandari College
- Bondo University College
- Catholic University of Eastern Africa
- Chepkoilel University College
- Chuka University College
- Daystar University
- Egerton University
- Great Lakes University of Kisumu, Tropical Institute of Community Health and Development in Africa
- Hekima College
- Inoorero University
- Jomo Kenyatta University of Agriculture and Technology
- Kabarak University
- Kabianga University College
- KCA University
- Kenya Highlands Evangelical University
- Kenya Medical Training College
- Kenya Methodist University
- Kenyatta University
- Kimathi University College of Technology
- Kisii University College
- Laikipia University College
- Makini College
- Marist International College
- Maseno University
- Masinde Muliro University of Science and Technology
- Moi University
- Mombasa Polytechnic University College
- Mount Kenya University
- Multimedia University College of Kenya
- Narok University College
- Pan Africa Christian University

- Pioneer International College
- Presbyterian University of East Africa
- Pwani University College
- Riara University
- South Eastern University College
- St. Paul's University, Limuru
- Strathmore University
- The East African University
- The Kenya Polytechnic University College
- United States International University
- University of Eastern Africa, Baraton
- University of Nairobi

***Lesotho***

*1 institution surveyed*

- National University of Lesotho

***Malawi***

*6 institutions surveyed*

- Mzuzu University
- The Malawi Polytechnic
- University of Malawi – Chancellor College
- University of Malawi – College of Medicine
- University of Malawi – Kamuzu College of Nursing
- University of Malawi

***Rwanda***

*15 institutions surveyed*

- Adventist University of Central Africa
- Byumba Polytechnic (Institut Polytechnique de Byumba)
- Catholic University of Rwanda
- Centre Hospitalier Universitaire de Kigali (CHUK)
- Independent Institute of Lay Adventists of Kigali
- Institut d'Agriculture, de Technologie et d'Education de Kibungo (INATEK)
- Kigali Health Institute (KHI)
- Kigali Independent University (Université Libre de Kigali, ULK)
- Kigali Institute of Education
- Kigali Institute of Science and Technology (KIST)
- National University of Rwanda
- National University of Rwanda – School of Public Health
- Nyagatare School of Nursing and Midwifery
- Tumba College of Technology
- Umutara Polytechnic

## **Tanzania**

### *40 institutions surveyed*

- Aga Khan University – Institute for Educational Development in Eastern Africa
- Aga Khan University – Medical College, Tanzania
- Ardhi University
- College of Arican Wildlife Management – Mweka
- College of Business Education
- Dar es Salaam Institute of Technology
- Dar es Salaam University College of Education (DUCE)
- Eastern and Southern African Management Institute (ESMAMI)
- Hubert Kairuki Memorial University
- International Medical and Technological University
- Kilimanjaro Christian Medical University College
- Mbeya Institute of Science and Technology
- Mkwawa University College of Education (MUCE)
- Moshi University College of Co-operative and Business Studies
- Mount Meru University
- Muhimbili University of Health and Allied Sciences (MUHAS)
- Muslim University of Morogoro
- Mzumbe University
- Mzumbe University – Dar es Salaam Business School
- Mzumbe University – Mbeya Campus College
- Open University of Tanzania
- Ruaha University College
- Saint Augustine University of Tanzania
- School of Library Archives and Documentation Studies
- Sebastian Kolowa University College of Tumani University Makumira
- Sokoine University of Agriculture
- State University of Zanzibar
- Tanzania Public Service College
- Teofilo Kisanji University
- The Mwalimu Nyerere Memorial Academy
- The Nelson Mandela African Institute of Science and Technology
- The University of Dodoma
- Tumaini University – Dar es Salaam College (TUDARCo)
- Tumaini University – Iringa University College
- Tumaini University Makumira
- University of Arusha
- University of Dar es Salaam
- University of Dar es Salaam – Institute of Marine Sciences
- Zanzibar Institute of Financial Administration
- Zanzibar University

## ***Uganda***

### *20 institutes surveyed*

- Aga Khan University – Faculty of Health Sciences, Kampala
- Bishop Barham University College
- Bishop Stuart University
- Bugema University
- Busitema University
- Cavendish University Uganda
- Gulu University
- International Health Sciences University
- Islamic University in Uganda
- Kampala International University
- Kampala University
- Kyambogo University
- Makerere University
- Makerere University – Business School
- Mbarara University of Science and Technology
- Ndejje University
- Nkumba University
- St. Lawrence University
- Uganda Christian University
- Victoria University

## ***Zambia***

### *10 institutions surveyed*

- Copperbelt University
- Copperstone University
- Mulungushi University
- National Institute of Public Administration
- Northrise University
- Northern Technical College
- Theological College of Central Africa
- University of Lusaka
- University of Zambia
- Zambia Centre for Accountancy Studies

## ***Zimbabwe***

### *15 institutions surveyed*

- Africa University
- Bindura University of Science Education
- Bulawayo Polytechnic
- Chinhoyi University of Technology
- Great Zimbabwe University
- Harare Institute of Technology

- Lupane State University
- Midlands State University
- Morgan Zintec College
- National University of Science and Technology
- Solusi University
- University of Zimbabwe
- University of Zimbabwe – Centre for Applied Sciences (CASS)
- Women’s University in Africa
- Zimbabwe open University