Open Knowledge Primer for African Universities
May 2019

Lisbeth Levey (levey180@gmail.com)
Contents

Figures ........................................................................................................................................ 2
Tables ........................................................................................................................................... 3
Introduction ................................................................................................................................... 4
Open access publishing .............................................................................................................. 4
Definition and relevance to Africa ............................................................................................... 4
Open access and librarians ........................................................................................................ 5
Basic facts on open access journals and Africa .......................................................................... 6
Subscription based versus open access licensing models .......................................................... 8
Open Access and Intellectual Property Rights ........................................................................... 9
Open access and plagiarism ......................................................................................................... 10
Open access journals and peer review ...................................................................................... 11
Publisher policies and author rights .......................................................................................... 11
Not all open access publishers produce quality journals ......................................................... 13
Additional considerations ......................................................................................................... 14
Open access, visibility, and impact factors ............................................................................... 14
Open access and donors ............................................................................................................ 16
The relationship between open access and open data ............................................................... 18
The Intersection between OER and open access ...................................................................... 19
Creating enabling policies for open access publishing ............................................................. 20
African university repositories and policies ............................................................................. 21
Definitions ................................................................................................................................. 21
University repositories in Africa ............................................................................................... 22
Repository Management ........................................................................................................... 22
Theses and dissertations ........................................................................................................... 23
Appendix 1: African open access repositories and policies ...................................................... 25
Appendix two: Further reading .................................................................................................. 34

Figures

Figure 2: Google Scholar plagiarism checker ............................................................................ 11
Figure 3: SHERPA/RoMEO categories ..................................................................................... 12
Figure 4: SHERPA/RoMEO journal record .............................................................................. 12
Figure 5: The Lancet journal metrics Figure 6: The Lancet Global Health journal metrics ....... 16
Figure 7: Gates Foundation open access and data policy ......................................................... 17
Figure 8: Gates Open Research ............................................................................................... 17
Figure 9: PLOS One APHRC data sharing statement ............................................................... 19
Figure 10: OER Africa finding open content tutorial ................................................................. 20
Figure 11: West African medicinal plants ................................................................................ 20
Figure 12: University of Nairobi repository record ................................................................... 23
Figure 13: Example of Google search ...................................................................................... 25
Tables
Table 1: African open access journals .............................................................. 6
Table 2: Academic journal licensing models and revenue sources ...................... 8
Table 3: From copyright to Creative Commons: a summary of rights..................10
Table 4: Africa-wide repositories ..................................................................... 25
Table 5: Repositories in Botswana ..................................................................... 27
Table 6: Repositories in Cape Verde .................................................................. 27
Table 7: Repositories in Ethiopia ...................................................................... 27
Table 8: Repositories in Ghana .......................................................................... 27
Table 9: Repositories in Kenya .......................................................................... 28
Table 10: Repositories in Namibia ..................................................................... 29
Table 11: Repositories in Nigeria ...................................................................... 29
Table 12: Repositories in Rwanda ..................................................................... 30
Table 13: Repositories in Senegal ..................................................................... 30
Table 14: Repositories in Sudan ......................................................................... 31
Table 15: Repositories in Tanzania ................................................................... 31
Table 16: Repositories in Uganda .................................................................... 32
Table 17: Repositories in Zambia ..................................................................... 32
Table 18: Repositories in Zimbabwe ................................................................. 33
Introduction

Open Educational Resources (OER) and Open Access came first. Now, increasingly, academics and researchers are making Open Data integral to scholarly communication. Rather than segmenting the three, many practitioners use the phrase “Open Knowledge.” This primer is meant to complement work carried out at OER Africa on OER and IPR/copyright.\(^1\) It broadens the discussion to include open access and open data, issues that impact on sub-Saharan African universities.\(^2\)

There are three sections: open access publishing; African university repositories and policies; and creating enabling policies for open access publishing. These sections are followed by two appendices—one with an annotated list of major sub-Saharan African institutional repositories and one on further reading.

Open access publishing

Definition and relevance to Africa

Open access typically refers to the publication of research results in journals, books, case studies, and other scholarly materials. The term was coined at a meeting convened by the Open Society Institute in Budapest in 2002, which resulted in the founding of the Budapest Open Access Initiative (BOAI). The BOAI definition of open access in 2002 was further refined in 2012 and is widely used today:\(^3\)

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

Open access is compatible with copyright, peer review, prestige, quality, and indexing. Most open access journals have clear policy statements on plagiarism, which will be discussed in more detail below. Open access licenses do not replace copyright; they supplement it. Creative Commons licenses are the ones most commonly used. These licenses permit users to set the terms under which their work may be used.

Research has demonstrated that open access brings increased visibility, usage, and impact to the work of academics, researchers, and students. In 2014, the European branch of the Scholarly Publishing and Academic Resources Coalition (SPARC) enumerated how open access benefits different stakeholder communities—authors, researchers, students, universities, libraries, and others.\(^4\) SPARC also provides information on the citation advantage of open access publishing.\(^5\) SPARC is an important organization because it represents the interests of national libraries, library consortia, and universities in the United States and in Europe.

---

1. OER are teaching and learning materials that can be used and reused, without charge. Go to [https://www.oerafrica.org/understanding-oer](https://www.oerafrica.org/understanding-oer) for more information.
2. In 2018, the African Library & Information Associations & Institutions (AfLIA) organized three webinars for academic librarians on open data. Go to [http://web.aflia.net/webinar-on-open-data/](http://web.aflia.net/webinar-on-open-data/).
4. [https://sparceurope.org/what-we-do/open-access/oa-benefits/](https://sparceurope.org/what-we-do/open-access/oa-benefits/).
5. [https://sparceurope.org/what-we-do/open-access/sparc-europe-open-access-resources/open-access-citation-advantage-service-oaca/](https://sparceurope.org/what-we-do/open-access/sparc-europe-open-access-resources/open-access-citation-advantage-service-oaca/)
Universities worldwide have cut back on journal subscriptions because the costs have become overwhelming. Price increases are usually higher than inflation costs. But in Africa, where budgets are far smaller, the relative burden may be even greater. Although most African universities and research institutions can read journals in the agricultural sciences online at no charge through the Food and Agriculture Organization’s AGORA for agriculture,6 the World Health Organization’s HINARI for health,7 the UN Environmental Program’s OARE for the environmental sciences8 and the e-journals delivery service for physical and mathematical sciences organized by the International Centre for Theoretical Physics,9 these services will not last forever and the journals are expensive.10

In addition, like library systems elsewhere in the world, some African countries have established academic library consortia. With startup assistance from Electronic Information for Libraries (EIFL)11 and the International Network for the Availability of Scientific Publications (INASP),12 these consortia can obtain journals at reduced cost. In Uganda, for example, university libraries that belong to the Consortium of Uganda University Libraries (COUL) can access a range of scholarly and scientific publications.13 Journal bundles also go up in price, however. In its article on “Big Deal Cancellation tracking, SPARC reports that:14

Publishers have often raised the price of the packages by 5-15%, far outpacing library budgets. This has been justified, in part, by the addition of a growing number of specialized journal titles, launched in quick succession. Libraries have found a growing chunk of their budgets allocated to servicing these big deals, as well as their ability to curate resources and build collections most appropriate for their communities severely hampered.

The SPARC article lists negotiations and cancellations for the last several years in North America and in Europe. If publishers are raising package prices in these regions, it is reasonable to expect that costs may also go up in Africa when current contracts come to an end.

The open access model can benefit African universities just as much as it helps university libraries, academics, and students elsewhere in the world. Open access is revolutionizing the traditional subscription-based publishing system. Moreover, if access to quality research information worldwide is important, so is the need to ensure that Africa’s research output reaches the scientific community globally. Open access to Africa’s research results can demonstrate that African scholars and students are significant producers of knowledge and not just consumers of it.

Open access and librarians

Librarians can play a role in an institution’s open access trajectory. Librarians know all too well about the high cost of journals and how subscriptions can consume their meagre budgets. They are, thus, well placed to advocate for use of high-quality open access journals. In addition, they have traditionally helped users find resources. A librarian who is well versed in finding open access materials is experienced enough to continue this role and to prepare appropriate training materials

---

6 http://www.aginternetwork.org/en/
7 http://www.who.int/hinari/en/
8 http://www.teeal.org
9 http://ejds.ictp.it/ejds/
10 Unfortunately, there is no equivalent program for the social sciences and humanities. But JSTOR (Journal Storage Online Repository) does offer free subscriptions to African not-for-profit institutions, including universities. For more information about the African Access Initiative, go to http://about.jstor.org/libraries/african-access-initiative.
11 https://www.eifl.net/
12 https://www.inasp.info/
13 https://cuul.or.ug/index.php/menu-styles/electronic-databases/e-resources-a-z
14 https://sparcopen.org/our-work/big-deal-cancellation-tracking/
on how to find, evaluate, and use open access materials. Finally, they are at the forefront of establishing and maintaining institutional repositories. Thus, librarians can play an important role in elucidating open access, explaining its relevance to the global knowledge pool, training library users, and lobbying for appropriate policies.

**Basic facts on open access journals and Africa**

In 2015, UNESCO reported that the number of African journals employing open access models is growing.\(^{15}\) African Journals Online (AJOL)\(^ {16}\) maintains a database of 523 African peer reviewed journals, 256 of them open access. But not all of the AJOL journals are current or even still publishing. Another option is to look for African journals in the Directory of Open Access Journals (DOAJ), which is discussed in more detail below.\(^ {17}\)

Some African journals are established by groups of collaborating organizations. The *East African Journal of Science, Technology and Innovation* (EAJSTI),\(^ {18}\) for example, represents a cooperative effort by the six member states of the East African Community (Burundi, Kenya, Rwanda, South Sudan, Tanzania, and Uganda),\(^ {19}\) the Inter-University Council for East Africa,\(^ {20}\) and the Nelson Mandela African Institute of Science and Technology of Tanzania.\(^ {21}\) The journal is funded by the African Development Bank, while the East African Science and Technology Commission (EASTECO) is the publisher.\(^ {22}\) Volume one, issue one is scheduled to be released in June 2019.

Below is a list of selected peer reviewed African journals in a range of disciplines, including information on where the journals are indexed and abstracted. All of them are covered by Google Scholar.

**Table 1: African open access journals**

<table>
<thead>
<tr>
<th>Journal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>African Crop Science Journal</em></td>
<td>The <em>African Crop Science Journal</em> is a quarterly publication, which publishes original research on all aspects of: crop agronomy, production; genetics and breeding; germplasm; crop protection; post-harvest systems and utilization; agroforestry; crop-animal interactions; information science; environmental science; and soil science. The journal is bilingual, publishing in both English or French. The <em>African Crop Science Journal</em> is indexed in both CAB International and TROPAG &amp; RURAL.</td>
</tr>
<tr>
<td><a href="http://www.bioline.org.br/cs">http://www.bioline.org.br/cs</a></td>
<td></td>
</tr>
<tr>
<td><em>African Health Sciences</em></td>
<td><em>African Health Sciences</em> is a quarterly journal published by Makerere University in Kampala, Uganda. It is an open access, free online, internationally refereed journal publishing original articles on research, clinical practice, public health, policy,</td>
</tr>
<tr>
<td><a href="https://africanhealthsciences.org">https://africanhealthsciences.org</a></td>
<td></td>
</tr>
<tr>
<td>Journal</td>
<td>Comments</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>African Journal of Food, Agriculture, Nutrition, and Development</strong></td>
<td>The <em>African Journal of Food, Agriculture, Nutrition, and Development</em> is published in Kenya by the Africa Scholarly Science Communications Trust (ASSCAT). “AJFAND envisions a world where information on Food, Agriculture, Nutrition and Development is contributed and shared honestly, respectfully, equally and impartially, a world in which the AJFAND supports all those who would like to contribute to knowledge building in the South as well as in the North. A key guiding principle of AJFAND is that no culture has a monopoly of knowledge.”23&lt;br&gt;&lt;br&gt;The journal is indexed in SCOPUS, Food, Science, and Technology Abstracts, CAB International, etc.24</td>
</tr>
<tr>
<td><strong>Pan African Medical Journal</strong></td>
<td>The <em>Pan African Medical Journal</em> is a publication of the PAMJ-Center for Public Health Research and Information, which is located in Nairobi, Kenya. There is a second office in Cameroon and additional contacts in Senegal, South Africa, and Uganda. &lt;br&gt;&lt;br&gt;The journal publishes original scientific studies, reviews and comments on current health initiatives, project and work reports, personal experiences, educational articles, and papers commenting on clinical, social, political, economic and other factors affecting health. &lt;br&gt;&lt;br&gt;The <em>Pan African Medical Journal</em> is indexed in Medline, index Copernicus, Scopus, and Embase.</td>
</tr>
<tr>
<td><strong>Scientific African</strong></td>
<td><em>Scientific African</em> is published by the Next Einstein Forum, an affiliate of the African Mathematical Institute. It “is dedicated to expanding access to African research, increasing intra-African scientific collaboration, and building academic research capacity in Africa. The journal aims to provide a modern, highly-visible platform for publishing pan-African research and welcomes submissions from all scientific disciplines.”25&lt;br&gt;&lt;br&gt;The journal is mounted on the Elsevier platform, where authors are also encouraged to share their data. <em>Scientific African</em> began publication in November 2018 and is not yet included in any of the major indexing and abstracting services.</td>
</tr>
<tr>
<td><strong>South African Journal of Chemistry</strong></td>
<td><em>The South African Journal of Chemistry</em> is published by the South African Chemical Institute. The journal publishes original theoretical and applied research in molecular, organic, inorganic,</td>
</tr>
</tbody>
</table>
Journal | Comments
--- | ---
and analytic chemistry. It covers general matters affecting the environment, industry, and research.

The *South African Journal of Chemistry* is indexed in Chemical Abstracts Service (CAS), Current Web Contents, Chemistry Citation Index, Index to Scientific Reviews, and Speleological Abstracts.

**West African Journal of Applied Ecology**
http://apps.ug.edu.gh/wajae/

The *West African Journal of Applied Ecology*, which is published by the University of Ghana, publishes original papers, invited articles, and book reviews in English on general ecology.

The journal is indexed in Web of Science.

**Subscription based versus open access licensing models**

Subscription-based journals rely on individual or institutional subscriptions and advertising for income, including editorial and production costs. Many of these journals have a policy to embargo articles for six months to a year from the date of publication. Afterwards, the articles are freely available, but they do not fall within the open access classification.

Online open access journals, however, are free to access, with no subscription necessary. Even so, they have the same costs as do traditional subscription-based journals (with the exception of print and distribution costs). Open access journals, for the most part, rely on author fees, sometimes called an author processing charge (APC). In many instances, the donor who paid for the research or the institution where the researcher works will cover APC costs. In South Africa, for example, both the University of Pretoria and the University of Cape Town will pay a portion of the author’s fee if the open access journal is on Department of Higher Education and Training’s list of accredited journals.\(^\text{26}\)

Some subscription-based journals permit authors to publish their articles in an open access format for a special fee. These are referred to as “hybrid” journals. The *Journal of African Economies*, which is published by Oxford University Press, is an example of a hybrid journal. Oxford University Press charges authors between £1000 and £2500, depending on the journal title in order to publish their article as open access, with a Creative Commons license. But African authors can receive a partial or full waiver.\(^\text{27}\)

Thus, there are three types of licensing and revenue models for academic journals as shown in Table 2 below. They are subscription-model, open access, and hybrid.

**Table 2: Academic journal licensing models and revenue sources**

<table>
<thead>
<tr>
<th>Type of Journal</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscription-model journals</td>
<td>The reader or advertiser pays—Authors transfer copyright and rights to the publisher. This means that both authors and readers must abide by the publisher’s typically restrictive terms and conditions.</td>
</tr>
</tbody>
</table>

\(^{26}\) Go to the University of Pretoria page on open access journals for more information: [http://www.library.up.ac.za/aoajsa.htm](http://www.library.up.ac.za/aoajsa.htm)

\(^{27}\) Go to [http://www.oxfordjournals.org/en/access-purchase/rights-and-permissions.html](http://www.oxfordjournals.org/en/access-purchase/rights-and-permissions.html) for information on OUP and open access. There are links on this page to information on charges and waivers.
<table>
<thead>
<tr>
<th>Type of Journal</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hybrid journals</td>
<td>Some subscription-based journal publishers allow authors to select an open access publishing option for a fee. The author retains copyright. The publisher derives additional income, through subscriptions and the author’s APC.</td>
</tr>
<tr>
<td>Open access journals</td>
<td>The author usually pays an APC and retains copyright. Some commercial publishers, such as Elsevier, now publish open access journals in addition to their regular subscription-based journals.</td>
</tr>
</tbody>
</table>

Whatever model they choose, publishers must cover their editorial and administrative costs. Editorial costs can include peer review, design and layout, copy editing, and proofreading.  

Major ways in which subscription-model journals earn revenue include subscriptions (individual and institutional), advertising, and from sales of reprints to non-subscribers. Some publishers may also sponsor conferences, which earn revenue from both registration fees and sales of exhibit space.

Open access publishers charge authors. In addition, some journals have received donor start-up support. For example, in 2002, the Public Library of Science (PLOS) received a $9 million grant for initial costs from the Gordon and Betty Moore Foundation. This grant was followed by a $1 million grant from the same foundation in 2006, “to help PLOS achieve financial sustainability and launch new free-access biomedical journals.”

Publishers of subscription-model journals own the rights to the articles they publish, including whether authors are allowed to place their work in an online repository. But some journals, such as Crop Science, will permit authors to place a pre-print or some other version of their article in a personal or institutional repository. This would include university repositories or discipline-specific repositories, such as in the one maintained by the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM). Author rights are discussed in more detail below.

**Open Access and Intellectual Property Rights**

By default, copyright is automatic, with “all rights reserved.” Authors who wish to loosen copyright protections supplement copyright with a license that allows more latitude. Creative Commons (CC), a US non-profit organization was established to do just that. CC has created a range of easy-to-use copyright licenses that offer a simple, standardized way to give people permission to share and use an author’s creative work — within the usage restrictions of his or her choice. Some licenses are very permissive and allow adaptation; others are more restrictive and permit users to read and distribute, but not to adapt. CC licenses are not an alternative to copyright; they let copyright holders easily change copyright terms from the default of “all rights reserved” to “some rights reserved.” Open access journals usually use one of the CC licenses.

---

30 [http://repository.ruforum.org](http://repository.ruforum.org)
31 [http://creativecommons.org/](http://creativecommons.org/)
**Open access and plagiarism**

To be clear—anything on the Internet can be copied. Copyright does not protect against plagiarism or piracy. Think of the bootleg movies and music that are available online and on the street in almost every country of the world. Books and other written materials can be pirated in their entirety or partially copied in bits by students, teachers, researchers, and others who have no respect for the intellectual efforts of their colleagues. Open access resources are no more immune than those that are protected by copyright, meaning that they can be both plagiarized and pirated.

Online publication, however, makes it easier to detect plagiarism. In a 2016 article in the *African Journal of Library, Archives and Information Science*, Dennis N. Ocholla and Lyudmila Ocholla wrote:

> The advantages of ease of access to and use of web-based information resources in the scholarly environment can be levelled by its disadvantages, in particular, the ease with which these same tools can be used to plagiarize, e.g. 'copy and paste' tool. However, while this scholarly challenge could be concealed in the ‘print only’ publishing environment for centuries, largely without noticing, the detection of plagiarism is becoming easier in the e-publishing environment. Yet even in the electronic publishing environment, such detection can be time consuming and costly if e-records are not placed in an Open Access (OA) environment where they rapidly appear in the public domain upon publication.

The authors go on to discuss the benefits of plagiarism detection software, such as *Turnitin*. Although Turnitin, which is widely used in educational systems, and *iThenticate*, which is aimed at

---


34 https://www.turnitin.com

35 http://www.iثenticate.com
journal publishers, are sold, there are also free plagiarism checkers available. Google Scholar, for example, offers a free plagiarism checker.36

Figure 1: Google Scholar plagiarism checker

Open access journals and peer review

Quality peer review is an essential component of all academic publishing.37 Some critics of open access journals claim that they lack rigorous peer review, which they state is not the case for subscription-model top-tier journals. The truth is somewhere in between; sometimes even the most prestigious journals slip up on peer review. Retraction Watch, a website maintained by two US scientists, maintains a list of prestigious publishers that have been forced to retract articles because of plagiarism, faulty data, and other forms of scientific misconduct.38 Peer review should have caught these errors but did not. Many open access journals employ an excellent peer review process; others do not. As is the case for all sources of information, authors must conduct due diligence in selecting an appropriate journal in which to publish. Additionally, readers must evaluate the source when reading any journal article, regardless of the licensing status.

Publisher policies and author rights

The open access movement started when some scholars and scientists began to protest over signing away author rights to a journal publisher. Why should a commercial publisher own the fruits of their labor, they asked. They wanted to circulate their research as widely as possible, including the possibility to deposit copies of their research in a personal or institutional archive. Subscription-model journal publishers will make the articles they publish available on their websites, of course. But these journals charge a fee for non-subscriber access during the initial embargo period. Even so, as stated above, subscription-model publishers frequently permit authors to mount a version of their articles on personal or institutional websites. Open access permits authors to circulate their research results wherever and however they like (within the confines of the publisher’s CC license).

36 http://plagiarisma.net/scholar.php
37 See “The bane of publishing a research article in international journals by African researchers, the peer-review process and the contentious issue of predatory journals: a commentary” in the Pan-African Medical Journal for a discussion of how peer review impacts African medical researchers. Go to: http://www.panafrican-med-journal.com/content/article/32/119/full/
38 https://retractionwatch.com
How is it possible to determine a journal’s policies pertaining to archiving and licensing? SHERPA/RoMEO in the UK maintains a website on publisher copyright policies and self-archiving. It uses four colors, as shown above, to categorize publisher policies, and this color sequence is now widely used when discussing different licensing arrangements. Green is the most permissive, while white is the most restrictive. Authors should aim for green and never settle for white if they are interested in maximizing their visibility. SHERPA/RoMEO will also give users information on a journal’s licensing status, when it is available. The screen capture below is an example of a SHERPA/RoMEO journal record.

Authors should also check the publisher’s website to ascertain open access and archiving information. When in doubt, authors can always write the publisher. They require answers to the following:

- What are the journal’s copyright policies?
- If the journal is fully copyrighted, does the publisher offer an open access option?
- If so, how much does it cost and is there a discount for developing-country authors?
- Is the author permitted to deposit a version of his or her article in a repository?
- If so, which version and what are the conditions?
- Is there an embargo period before the journal article is free to all? (usually 12 months.)
- Is the journal archived in perpetuity?

Moreover, many publishers now publish both subscription-based/copyright protected journals and open access journals. This is true of the Nature Publishing Group, Elsevier, and the American

Physical Society, to name just three. These publishers also permit authors to designate their article as open access. This has been done in part to make it easier to conform to new funder open access guidelines, which are discussed below. Authors will find these journals in SHERPA/RoMEO, as well.

Not all open access publishers produce quality journals

Although many publishers of open access journals are legitimate, there are shoddy publishers everywhere. Some publishers of open access journals appear to be particularly unscrupulous and have come in for a good deal of criticism from librarians and scientists. These publishers are attempting to profit from the open access movement. The fees they charge authors are high; the peer review and editing they provide are almost non-existent; and they do not check submissions for plagiarism. As an example, in April 2019, Omics International in India was fined $50 million by the US Federal Trade Commission for deceptive business practices.40

Jeffrey Beall, a US university librarian, called them “predatory journals,” and the term stuck.41 The journal Nature has also published on “the dark side of publishing.”42 As a further source of information on shoddy open access publishing, Monica Berger and Jill Cirasella, two academic librarians, analyzed the predatory publisher phenomenon, how to avoid falling into the clutches of one, and the importance of librarians in evaluating journals.43

Thus, there are several ways that authors can seek to mitigate the risk of selecting an unreliable open-access journal, with the goal of choosing the best one for the research in question. The bullets below provide a “due diligence” checklist.

- Use the Directory of Open Access Journals (DOAJ).44 DOAJ now has tougher procedures for accepting journals.45 You can use DOAJ to search by journal title or by subject.
- Many universities encourage academics to publish in open access journals. Ascertain whether your institution does so and whether it helps in covering author charges.
- Be wary of journal publishers who email you to solicit an article, particularly if you are not familiar with the journal title.
- Be wary of any journal title that does not give full contact information, including address.
- Ensure that the editorial board is composed of experts in the field. You may want to write one or two of them to ascertain whether they are really on the editorial board.
- The journal should prominently display on its web site author fees and its peer review process.
- Carefully read the author guidelines. If there are none, this might not be a journal in which you want to publish.
- Journals typically list the indexing and abstracting databases in which they are included. Check to ensure that this is the case. Some journals falsely claim to be included in legitimate indexing and abstracting services. Although full access to commercial indexing and abstracting services require a subscription, it is possible to check whether the journal is covered in the list of included publications.
- Ascertain that the journal publishes regularly and that the publication schedule meets your needs. Some journals have faster review and editorial processes than others. But beware of

41 Although Beall no longer writes on this issue, it is possible to find his criteria on how to determine predatory journals at https://beallslist.weebly.com/uploads/3/0/9/5/30958339/criteria-2015.pdf
42 http://www.nature.com/news/investigating-journals-the-dark-side-of-publishing-1.12666
43 https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1069&context=gc_pubs
44 http://www.doaj.org/
journals that promise too fast a turnaround time for peer review and acceptance. Unfortunately, there is no standard. You can check other journals in your discipline to ascertain how long the process takes.

- Read a few articles to ascertain their quality and check to see whether those articles are indexed in the most relevant citation and abstracting services. These include Scopus, CAB International, EconLit, ERIC, PubMed, and the Web of Science.
- Talk with your supervisor and colleagues. Ask whether they are familiar with the journal.

Whether a journal publishes articles that plagiarize the work of others is an issue to be taken seriously. The *South African Journal of Chemistry* “scans each submission for plagiarism.”\(^{46}\) Not every publication does so, however. Ask the publisher whether and how the journal checks for plagiarism. In addition, many African universities subscribe to plagiarism checkers. Use the one to which your institution subscribes to check text from one or two articles to find out whether it has been copied in any way. You can also use one of the free plagiarism checkers available online.

**Additional considerations**

- Be sure to include a line item for page charges in your research budget. Open-access fees can be as high as $3,500. This is in addition to the page charges that some subscription-based publications require. Thus, if you are thinking about publishing in a “hybrid” publication, you should reserve additional funds.
- Think carefully about where you want to publish and do your homework to ensure that you are selecting an appropriate journal. Remember the due diligence checklist above.
- If your university has a repository, use it to archive your work. In addition, you may want to join ResearchGate,\(^{47}\) which will provide you with worldwide visibility. Other academic self-archiving services include EconPapers,\(^{48}\) AgEcon Search,\(^{49}\) the Social Science Research Network,\(^{50}\) and arXiv\(^{51}\) for physics, mathematics, computer science, quantitative biology, and quantitative finance and statistics. Finally, be sure to create a profile in Google Scholar.\(^{52}\) These services have also become major networking platforms to share and follow research. Authors can create research profiles, upload publications, and find and track other researchers. Registration is free at all them. In addition, both ResearchGate and Google Scholar will tell you how often your work has been cited. Another possibility is to archive your work on your own personal webpage. And remember—none of these options is mutually exclusive.

**Open access, visibility, and impact factors**

There are several ways to determine a journal’s impact factor. Scopus has a free service to ascertain each Elsevier journal’s impact factor.\(^{53}\) The Scopus list, however, only includes journals published by Elsevier. The Web of Science publishes *Journal Citation Reports*, but access requires a subscription.\(^{54}\) The SCImago journal and country rank is another important resource. Available free of charge from the the Consejo Superior de Investigaciones Científicas (CSIC), University of Granada, Extremadura, Carlos III (Madrid) and the Alcalá de Henares, SCImago allows users to ascertain

---

46 https://journals.co.za/upload/Guidelines_for_Authors/chem_auth.pdf  
47 http://www.researchgate.net/  
48 http://econpapers.repec.org/  
49 http://ageconsearch.umn.edu/  
51 http://arxiv.org/  
52 For instructions on how to create a profile, go to http://blog.impactstory.org/impact-challenge-day-3-google-scholar/  
53 https://www.scopus.com/sources  
54 https://clarivate.com/products/journal-citation-reports/
country citation rankings and also journal impact factors, based on Scopus and Web of Science.\textsuperscript{55} Finally, Google Scholar has a free impact factor service, which can be broken down by discipline.\textsuperscript{56} The Nelson Mandela African Institution of Science and Technology Department of Library Services maintains a page with instructions on how to measure an author’s impact factor using Google Scholar.\textsuperscript{57}

It’s not unheard of to skew a journal’s or article’s impact factor. In a 2016 article in PLOS One titled “A Large-Scale Analysis of Impact Factor Biased Journal Self-Citations,” Caspar Chorus and Ludo Waltman describe the different way impact factor data can be manipulated.\textsuperscript{58}

Moreover, journals from the global South can be affected adversely by impact factor metrics. As Brujans and Lamanna point out in their 2018 article, “The case for a regional approach to publication impact:”\textsuperscript{59}

\textit{Healthcare-related research is largely regional. Put simply, this is because disease burdens differ between world regions. Even global burdens, such as ischaemic heart disease and cancer, display distinctive characteristics in certain regions that are not seen in others. Regional differences in infrastructure, resources and human capital further compound the differences seen, as they affect the way in which the local scientific community can interact with the local disease burden. As such, it seems fair to assume that healthcare-related research ought to be regionally distributed.}

They go on to argue that journal publishers do not recognize the importance of regionality in clinical medicine:\textsuperscript{60}

\textit{This regionality of clinical medicine is, however, not reflected in academic publishing; the impact of a journal is measured and understood by metrics that use the world as their denominator. Therefore, top medical journals are perceived to be relevant equally to all contexts and regions. However, there is a strong case to be made that this lack of granularity is deleterious, and that the creation of a regional impact metric would place clinicians, researchers, and libraries in a better position to understand which journals are relevant to their context and practice.}

A comparison of \textit{The Lancet} and \textit{The Lancet Global Health}, both published by Elsevier, is instructive. \textit{The Lancet}, which is one of the top medical journals in the world, has a very high impact factor. \textit{The Lancet Global Health}, which is open access and publishes research that is regional in nature with a focus on low- and middle-income countries, has respectable journal metrics. But they are lower than those of The Lancet.

\textsuperscript{55} https://www.scimagojr.com
\textsuperscript{56} https://scholar.google.com/citations?view_op=top_venues&hl=en
\textsuperscript{57} http://libraryservices.nm-aist.ac.tz/index.php/citation-impact
\textsuperscript{58} https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0161021
\textsuperscript{59} https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5813912/
\textsuperscript{60} https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5813912/
The question becomes impact factor for whom? African journals, such as the ones listed in table two above, publish articles of national and regional significance far more often than subscription-model journals. But these journals may lack a high impact factor because of the specificity of the research described in the articles they publish. Many academics have begun to consider whether impact factor metrics are relevant overall. Brujans and Lamanna specifically ask about the utility of a “regional impact metric.”

Open access and donors

Some governments and foundations in North America and Europe require that all research they fund be made freely available to the public. Examples include the European Union and the Horizon 2020 project, the UK Department for International Development (DFID), Wellcome Trust, the US National Institutes of Health (NIH), the Ford Foundation, and the Bill and Melinda Gates Foundation. This has implications for universities and individual researchers because they must be sure that grants have sufficient funds to pay for any resulting author fees, if necessary, so that they can make the research resulting from grants accessible at no cost.

Some donors are more flexible than others in that they require that research be made freely available, but do not mandate publication in an open access journal. They also permit embargo periods of between six months and a year. This is true of NIH and Wellcome Trust, for example. Other funders, such as the Gates Foundation, require that all research it funds must be published immediately in an open access journal. Many donors also require that researchers open the underlying data on which the research is based (see below).

---

63 http://www.wellcome.ac.uk/about-us/policy/spotlight-issues/Open-access/index.htm
64 https://publicaccess.nih.gov/
65 http://www.fordfoundation.org/newsroom/news-from-ford/934
66 http://www.gatesfoundation.org/how-we-work/general-information/open-access-policy
The Gates Foundation also maintains a portal called Gates Open Research\(^{67}\) for its grantees to mount their research after it is completed. Once on the website, the Foundation invites peer reviewers to review the document. The whole process is transparent, and reviewers are named.

There are organizations that track donor policies. SHERPA/JULIET, for example, will provide users with all the information they need about their donor’s policies—although it is always best to ask relevant program officer because policies can change.\(^{68}\) See the SHERPA/JULIET screen capture above for a search on the Gates Foundation. Creative Commons also tracks donor policies.\(^{69}\)

---

\(^{67}\) [https://gatesopenresearch.org/](https://gatesopenresearch.org/)

\(^{68}\) [http://v2.sherpa.ac.uk/juliet/](http://v2.sherpa.ac.uk/juliet/)

\(^{69}\) [http://creativecommons.org/tag/open-licensing](http://creativecommons.org/tag/open-licensing)
In addition, many multilateral agencies, such as the World Bank and the International centers affiliated to the CG agricultural system, now make their own research and data freely available, usually with a Creative Commons license.

**The relationship between open access and open data**

Just as some journals are changing licensing conditions, so is the practice of researchers, publishers, and donors pertaining to the data that is collected. Open data is a relatively new concept, but its application is growing quickly. Open data means that users can make free use of data without requesting permission and without copyright or patent restrictions. The data is stored in a non-image, non-proprietary format, which allows manipulation. Open data is usually given an “Attribution and Share-Alike for Data/Databases” license.\(^70\)

Availability of open data can streamline teaching, learning, and research, as well as promote transparency and accountability. In all instances, full attribution must be given. Researchers can protect sensitive data to protect confidentiality and anonymity, when necessary,\(^71\) and is discussed in more detail below.

Many open-access journals require authors to make their data publicly available, sometimes by depositing them in an appropriate and approved data repository. In addition, the same donors that require grantees to publish in open-access format, such as the Gates Foundation, are also likely to have rules about open data. Authors can consult the journal in which you are publishing or the funder who is supporting your research. If you are interested in knowing more about data repositories, visit the Registry of Research Data Repositories at [http://www.re3data.org/](http://www.re3data.org/).

Some African governments and research organizations are also involved in promoting the open availability of data. Kenya established the first African governmental open data portal in 2011.\(^72\) The African Development Bank Group maintains a portal for data, statistics, and visualizations for the continent.\(^73\) The African Academy of Sciences (AAS) maintains an Open Research platform for scientists who receive support from the AAS to mount their research results, including data.\(^74\) The AAS also gives detailed data guidelines for authors to follow. Its policy includes the following:\(^75\)

> AAS Open Research requires that the source data underlying the results are made available as soon as an article is published...In accordance with our data policies, authors will be required to submit their data or provide details of where their data is hosted upon submission (excepting ethical, data protection or confidentiality considerations).

Some research organizations believe in freely sharing data, but only upon request. The African Population Health Research Consortium (APHRC) in Nairobi, Kenya, is one such organization. The APHRC data sharing statement includes the following text:\(^76\)

> Cognizant that data is the primary resource for generation of knowledge and evidence to promote scientific, policy and program discourses on development issues, APHRC adheres to the principle that data should be made available to all authorized [emphasis mine] users in a timely manner and in the most user-friendly formats. Also, the Centre subscribes to the Code

\(^{70}\) [https://opendatacommons.org/licenses/odbl/index.html](https://opendatacommons.org/licenses/odbl/index.html)

\(^{71}\) Go to the *Open Data Handbook* for more information on the legal, social, and technical aspects of open data: [http://opendatahandbook.org/en/index.html](http://opendatahandbook.org/en/index.html).

\(^{72}\) [https://opendata.go.ke/](https://opendata.go.ke/)

\(^{73}\) [http://opendataforafrica.org/](http://opendataforafrica.org/)

\(^{74}\) [https://aasopenresearch.org/](https://aasopenresearch.org/)

\(^{75}\) [https://aasopenresearch.org/for-authors/data-guidelines](https://aasopenresearch.org/for-authors/data-guidelines)

of Conduct for the collection, analysis and sharing of health-related research data which recognizes health data as a public good.

Many organizations that commission or publish open-access research understand the sensitivity of some data. The AAS policy, for example, includes a statement on sensitive data and ethical considerations, as does the Gates Foundation. *PLOS One* requires authors to deposit their data in open repositories except when there are extenuating legal or ethical circumstances:

>PLOS journals require authors to make all data underlying the findings described in their manuscript fully available without restriction at the time of publication. When specific legal or ethical requirements prohibit public sharing of a dataset, authors must indicate how researchers may obtain access to the data.

Figure 8: PLOS One APHRC data sharing statement

Thus, APHRC’s desire to vet researchers who want to access its data because of sensitivity and ethical considerations can coexist with open data requirements. The key is the last sentence in the PLOS policy, which is similar to the policies of other organizations. Authors are permitted to restrict access in certain circumstances, which is what the authors in the article on the left were able to do.

The Intersection between OER and open access

OER and OA are similar, but they are not the same. OERs are used for teaching and learning. They can be full courses, lesson plans, and modules. OA resources are used to make the research output of a scholar or student freely available. An OA resource can be a journal article, case study, book, policy document, etc. The “O” for open unites the two; both typically use CC licenses.

There are three major ways in which OER creation and utilization can intersect with open access. Good research made available under open licenses can help educators prepare up-to-date and

---

77 [https://journals.plos.org/plosone/s/data-availability](https://journals.plos.org/plosone/s/data-availability)
relevant learning materials. Additionally, these documents can be used as recommended or supplemental reading. Third, assigning students to search online for relevant documents is an excellent way to bolster both information-retrieval skills and learner centered studies.

It is possible to find open access/freely available research literature various ways. One is to conduct a search using Google’s advanced mode. OER Africa has tutorials on finding open content, including using Google.

**Figure 9: OER Africa finding open content tutorial**

![Google Scholar search](https://www.oerafrica.org/book/finding-open-content-tutorial)

Google Scholar can restrict searches to scholarly resources. It makes every effort to include the URL where it possible to read the full text of a journal article, report, or case study. A search for “West African medicinal plants” pulled up 10 pages of citations, including this one.

**Figure 10: West African medicinal plants**

![Google Scholar search results](https://www.oerafrica.org/book/finding-open-content-tutorial)

You can see that the citation links you to a version of the article that the author placed on ResearchGate. It may not be open access, but it is free to read. You can also see how many times the article has been cited—375 times. Lecturers can use resources such as this in preparing their teaching materials; they can also recommend freely available documents to their students by providing the URL. Finally, Google Scholar is a good place for students to identify relevant materials as part of their assignments and research.

### Creating enabling policies for open access publishing

Some African universities understand the importance of open access publishing to enhancing their image and knowledge of research conducted at their institutions. Moreover, as discussed above, a growing number of donors now requires grantees to make their research publicly available. These

---

are powerful incentives. In October 2018, in honor of Open Access Week, the Secretary General of the Association of African Universities expressed AAU support for open access and identified polices that African universities should adopt:  

- **In hiring, promotion, and tenure, the university will give due weight to all peer-reviewed publications, regardless of price or medium.**
- **Faculty who publish articles must either (1) retain copyright and transfer only the right of first print and electronic publication, or (2) transfer copyright but retain the right of postprint archiving.**
- **Adopt policies encouraging or requiring faculty to fill the institutional archive with their research articles and preprints**
- **All theses and dissertations, upon acceptance, must be made openly accessible, for example, through the institutional repository or one of the multi-institutional OA archives for theses and dissertations.**
- **All conferences hosted at your university will provide open access to their presentations or proceedings, even if the conference also chooses to publish them in a priced journal or book. This is compatible with charging a registration fee for the conference.**
- **All journals hosted or published by your university will either be OA or take steps to be friendlier to OA. For example, see the list of what journals can do.**

For those interested in why universities choose to adopt open access policies, SciDevNet wrote about the University of Nairobi’s reasons for promulgating an open access policy and the importance of open access to African research and the global knowledge pool.  

The three African research and education networks—UbuntuNet for Eastern and Southern Africa, WACREN for West Africa, and TANDEM for North Africa—are also collaborating with academic libraries in these regions on open access, repositories, and policies in an initiative called LIBSENSE. LIBSENSE has drafted model national and institutional open access policies, which are under review.

### African university repositories and policies

#### Definitions

An institutional repository is an online library that collects, preserves, and disseminates digital copies of the intellectual output of an institution, particularly a research institution. Books, research articles, theses and dissertations, and other scholarly resources are typically included in these repositories, many of which practice open access principles. Universities in Africa and elsewhere have established repositories to promote wide and freely accessible distribution of the research carried out at their institutions. From a global perspective, however, the number of African university repositories is small. But the numbers are growing, with a concomitant increase in quality.

79 Go to [https://www.aau.org/2018/10/12/short-statement-from-the-sg-of-aau-on-open-access-to-all-heis-on-the-continent/](https://www.aau.org/2018/10/12/short-statement-from-the-sg-of-aau-on-open-access-to-all-heis-on-the-continent/). The Secretary General’s statement also includes links to open access policy resources for administrators, faculty, and librarians.


81 [https://spaces.wacren.net/display/LIBSENSE](https://spaces.wacren.net/display/LIBSENSE)

82 [https://spaces.wacren.net/pages/viewpage.action?pageId=7929890](https://spaces.wacren.net/pages/viewpage.action?pageId=7929890)

83 [https://spaces.wacren.net/pages/viewpage.action?pageId=7929892](https://spaces.wacren.net/pages/viewpage.action?pageId=7929892)

University repositories in Africa

The Directory of Open Access Repositories (OpenDOAR) maintains a list of institutional repositories in Africa. But, because OpenDOAR is primarily a self-reporting effort, it is not always accurate. Some repositories appear to have gone offline; others have launched and are not yet included in the database. The International African Institution (IAI) in the UK maintains another annotated list of repositories.

Appendix one contains annotated tables of Sub-Saharan Africa repositories that are current as of March 2019. These tables are not meant to be comprehensive; the goal is to provide examples to demonstrate the breadth of the repository movement in Africa.

Repositories are important from an African perspective because universities on the Continent and the research they produce are not as well-known as they should be. Repositories can increase the international visibility and prestige of a university, its research, and its scholars. They thus ensure that African research information can reach the global knowledge pool and be recognized for its quality. On pages 6–7 of the University of Namibia’s scholarly communications policy, the university lists 18 principles that underpin its repository and open access policies.

Some African universities have specific policies for their repositories; others have created policies for open access and Creative Commons licensing more broadly. Some encourage, but do not require, authors to submit their resources to the institution’s repository; some mandate that all scholarly outputs should be made freely available. But populating university repositories will require more than policies. There are too many African repositories with a URL, but little else. The university as a whole needs to be brought on board, and all authors actively encouraged to deposit their papers into the university repository. Funding is required to pay for necessary infrastructure, equipment, staff time, and maintenance, as discussed below.

Repository Management

Repository management requires strategic planning and a work plan, appropriate technology and platform, an adequate budget, sufficient human resources for all functions, and appropriate web analytics. Workshops and other sensitization activities will be necessary. For information on repository management, the following resources may be helpful: SPARC has published an institutional repository checklist and resource guide. Stellenbosch University also maintains a Wiki with practical guidelines for starting an institutional repository. As a final source of assistance, the Confederation of Open Access Repositories has training materials in a number of areas, including setting up and running repositories, advocacy to different stakeholders, and research data management, amongst others.

Most African university repositories use D-Space, a not-for-profit, open source software, to house their repositories. But repositories are not always as user friendly as they might be. Some allow

---

85 http://www.opendoar.org/countrylist.php
86 https://www.internationalafricaninstitute.org/repositories
89 http://wiki.lib.sun.ac.za/index.php/SUN Scholar/Practical_guidelines_for_starting_an_institutional_repository
90 https://www.coar-repositories.org/activities/support-and-training/training-materials/
91 https://duraspace.org/dspace/
keyword searching by year of publication; others do not. Some do not provide licensing information. Even though the download is free, the terms under which the resource may be used might not be defined, which – at least in principle – means that they remain bound by All-Rights Reserved Copyright. In addition, visitors to some repositories will sometimes find that not all content is accessible at all. Some repositories contain bibliographic references or abstracts without full text. Sometimes, this is because the resource is in hard copy only, having been written before digital deposit was required. Figure 11 below shows a record from the University of Nairobi institutional repository, with all necessary metadata included. Note that license terms are included and full metadata are also available.

**Figure 11: University of Nairobi repository record**

In 2018, EIFL published a detailed checklist on repository management to help librarians ensure that their repository meets user expectations and enhances their university’s visibility. The guide also provides information on how to enhance discoverability and measure utilization statistics, including how to determine the impact of individual resources contained in the repository.92

**Theses and dissertations**

Making theses and dissertations freely accessible can be complicated. Some postgraduate students plan to publish their research results and journals have different policies about accepting papers based on a thesis or dissertation that has been made available online. Some publishers consider making a thesis or dissertation publicly available as prior publication.

In the United States, many universities allow an embargo period of between six months and two years to allow graduates time to publish. The thesis or dissertation is deposited with the library, but only the citation and abstract are available online for the embargo period. At Columbia University, for example, embargoes are usually requested when a patent is pending, an experiment is not finished, or a manuscript has been submitted for publication in a scholarly journal or as a book. Students may request an embargo for up to five years.93 The Columbia University electronic deposit

---

Frequently Asked Questions (FAQs) explain why open access deposit can enhance the student’s visibility and prevent plagiarism:

*Works appearing in the Academic Commons are available to anyone with an Internet connection. Making dissertations available openly will benefit you by broadening your audience, increasing citations, and allowing potential employers and publishers to more easily find your work. By making your work widely available online, you can better protect your intellectual property, by firmly and publicly establishing your ideas. All works deposited into the Academic Commons have a permanent URL that will never change and can be used as a citation in your CV or in bibliographies.*

Apart from Addis Ababa University in Ethiopia, South African universities are the only ones of the sub-Saharan African repositories I surveyed with specific policies for online access to theses and dissertations. To give two South African examples:

- At the University of the Witwatersrand, all students must submit their thesis or dissertation in electronic format. In the form that the student must complete, s/he acknowledges that it will be made publicly available within four months of submission “unless permission for further embargo has been approved by the relevant Supervisor.”
- At the University of Pretoria, all students are required to deposit their theses or dissertations in the university electronic theses repository. With the permission of the supervisor, students may request an embargo period or refuse permission altogether to provide public access to their thesis or dissertation.

Open access is important, but so is the right of graduates to publish. African universities may want to amend their open access policies to allow students embargo periods. Those universities without policies should be sure to include publishing guidelines for students. The key is to implement a policy that is fair both to students and the university’s interest in opening research conducted under its auspices to scholars worldwide.

---

95 [See table in Appendix one.](#)
Appendix 1: African open access repositories and policies

The tables below, which are organized by region or country, provide information on major sub-Saharan African open access repositories, together with details on relevant institutional open access policies, where they exist. Most, but not all, are university repositories. Many repositories are in countries in which English is the language of instruction at the tertiary level. Information on OER repositories and policies will be found elsewhere.

As noted above, these tables are not comprehensive and the situation changes constantly because new institutions establish repositories on a regular basis. When in doubt, do a Google search by entering the name of the institution in which you are interested and the word “repository” or the term “open access.”

Figure 12: Example of Google search

Table 4: Africa-wide repositories

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Capacity Building Foundation</td>
<td>The African Capacity Building Foundation, which is located in Harare, Zimbabwe, maintains a digital library of its publications on development. ACBF is a specialized agency of the African Union. Although all publications are freely accessible, they are fully copyrighted and bear the following notice: “No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying recording or otherwise, without prior written permission.”</td>
</tr>
<tr>
<td>African Institute for Economic Development and Planning</td>
<td>The African Institute for Economic Development and Planning, which is located in Dakar, Senegal, maintains a repository with resources on the French-speaking countries of Africa. The interface is in English and French. Documents are in both languages.</td>
</tr>
</tbody>
</table>

An increasing number of African universities have established institutional repositories, but a smaller number have promulgated university-wide open access policies. In addition to consulting the existing policies and asking assistance from the AAU, university administrators interested in open access policies, may want to read the European Universities Association’s Open Access checklist for universities: A practical guide on implementation, which can be found at [https://eua.eu/resources/publications/365:eua%E2%80%99s-open-access-checklist-for-universities-a-practical-guide-on-implementation.html](https://eua.eu/resources/publications/365:eua%E2%80%99s-open-access-checklist-for-universities-a-practical-guide-on-implementation.html).
<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Africa Portal  
[https://www.africaportal.org/](https://www.africaportal.org/) | The Africa Portal “is a research repository and an expert analysis hub on African affairs.” It is an open access, freely available collection of resources managed jointly by the South African Institute of International Affairs in Johannesburg, South Africa, and the Centre for International Governance Innovation in Ottawa, Canada. Collaborating content providers include major African and overseas research centers. |
| AfricArXiv African Preprint Service  
[https://osf.io/preprints/africarxiv/](https://osf.io/preprints/africarxiv/) | AfricArXiv is an initiative of the Project for Open Science. This service allows African scientists to mount preprints of their research for review and discussion by peers in the international scholarly community before publication in a scholarly journal. AfricArXiv, which does not peer review submissions, sees itself as a way for African scientists to circulate their research quickly and freely in order to communicate with others in their field. It does not replace publication in a peer reviewed journal. See the AfricArXiv submission guidelines at [https://docs.google.com/document/d/1pZ2kxbTSpjRMWHfhI851rBjsUimArE_UD8aMy5KiUgk/edit#heading=h.7j4b06jfbue8](https://docs.google.com/document/d/1pZ2kxbTSpjRMWHfhI851rBjsUimArE_UD8aMy5KiUgk/edit#heading=h.7j4b06jfbue8) for more information. |
| Association of African Universities (AAU)  
Database of African Theses, Dissertations, and Research  
[http://datad.aau.org](http://datad.aau.org) | DATAD-R contains theses and dissertations, as well as peer-reviewed research articles from African universities. Starting in 1998 with a feasibility study and pilot project at 11 universities, DATAD now incorporates theses, dissertations, and research. As of March 2019, there were over 29,000 theses or dissertations and almost 5,000 research reports in the database. DATAD-R is hosted by the Academy of Science of South Africa and maintained by AAU.  

The AAU has also worked with its member universities on training workshops and meetings dealing with policy, repository implementation (including technology, practices and standards), and other issues. |
| OER Africa  
[https://www.oerafrica.org](https://www.oerafrica.org) | OER Africa, which is an initiative of Saide and located in Johannesburg, South Africa, is a one-stop shop for information for and from African universities on OER. The OER Africa repository is broken down by topic: understanding OER; courseware, research and policies; and OER in higher education. |
| The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) Knowledge Repository  
[https://repository.ruforum.org](https://repository.ruforum.org) | RUFORM, which is based at Makerere University in Kampala, Uganda, maintains an institutional repository in the broad-based agricultural sciences of theses and dissertations of students receiving RUFORM scholarships; journal articles; case studies; policy documents; and reports. |
| UN Economic Commission for Africa (UNECA) Institutional Repository  
[http://repository.uneca.org](http://repository.uneca.org) | The UNECA maintains a knowledge repository that includes published materials such as flagship publications, journal articles, conference proceedings, technical reports, mission reports, annual reports, working papers, speeches and other grey literature on African social and economic development. |

---

99. [https://saiia.org.za/](https://saiia.org.za/)

100. [https://www.cigionline.org/](https://www.cigionline.org/)
Table 5 Repositories in Botswana

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Botswana</td>
<td>The University of Botswana maintains a small repository. As of March 2019, of the 1,570 resources contained in it, only 81 are theses or dissertations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portal do Conhecimento de Cabo</td>
<td>The Portal do Conhecimento de Cabo Verde, which is maintained by the Cape Verde government, is a collection of theses, dissertations, articles, and other resources. Full text is available for some, but not all, documents. Available resources are freely available, but do not carry a Creative Commons license. The site is in Portuguese.</td>
</tr>
<tr>
<td>Porto Verde</td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Repositories in Ethiopia

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addis Ababa University</td>
<td>Addis Ababa University does not have a full-fledged institutional repository, but there is an open access repository for theses and dissertations completed at the university. All postgraduate students are required to submit an electronic copy of their thesis to the library, which is then mounted in the repository.</td>
</tr>
<tr>
<td>Haramaya University</td>
<td>The Haramaya University institutional repository contains theses and dissertations, journal articles, and archival materials.</td>
</tr>
<tr>
<td>Mekelle University</td>
<td>Mekelle University does not yet have an institutional repository, but it implemented a repository to collect the resources through the AgShare project.</td>
</tr>
</tbody>
</table>

Table 8: Repositories in Ghana

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashesi University</td>
<td>Ashesi University maintains a small, but current, institutional repository for students and staff to mount their research. “Students who produce strong research work have the privilege of getting their work published on AIR,” but their theses and dissertations must be submitted to the library for approval.</td>
</tr>
<tr>
<td>Kwame Nkrumah University of</td>
<td>The Kwame Nkrumah University of Science and Technology (KUNIST) collects full text of research, conference proceedings, theses and dissertations, and university documents. Theses and dissertations constitute the largest component of the repository collection. KNUST does not have an open access policy, but</td>
</tr>
<tr>
<td>Science and Technology, Ghana</td>
<td></td>
</tr>
</tbody>
</table>

101 https://air.ashesi.edu.gh
Postgraduate students are “are strongly urged to ensure soft copies of their research findings are submitted to the School of Graduate Studies for uploading to the repository.” They are not required to do so, however. There is a draft (undated) publications policy for theses and dissertations, which lays out student requirements on copyright and on electronic access. It can be found at https://kccr-ghana.org/wp-content/uploads/2018/08/POLICY-ON-PUBLICATION.pdf.

KNUST does have an OER policy, which mandates Creative Commons licensing for resources produced at the university. It was implemented in 2011 and was one of the first such policies in sub-Saharan Africa. The repository will be found here: http://ir.knust.edu.gh/. The university’s OER policy and the background leading to its implementation are located on the OER Africa website: http://www.oerafrica.org/resource/policy-development-and-use-open-educational-resources-oer-knust.

University of Ghana
http://ugspace.ug.edu.gh
UGSpace is the institutional repository of the University of Ghana. It is an open access electronic archive for the collection, preservation and distribution of University of Ghana digital materials, which was established to facilitate the deposit of digital content of a scholarly or heritage nature in order to share, preserve and promote the intellectual output of the University in a managed environment.

Table 9: Repositories in Kenya

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Egerton University
http://ir-library.egerton.ac.ke/jspui/ | Egerton University maintains a small repository. There are 726 theses and dissertations in the repository, by far the large component of the repository’s collection. Although full text is freely available, some of them are copyright protected with the following statement: “This copy of the thesis is protected and may not be reproduced, stored or transmitted in any form or any means such as electronic, mechanical, photocopying and recording without prior sanction in writing from the author or Egerton University on that behalf.” |
| Jomo Kenyatta University of Agriculture and Technology
http://ir.jkuat.ac.ke | The university’s repository is relatively small, with theses and dissertations constituting the largest collection. The university’s digital repository policy, which includes a section on open access will be found at http://jkuat.ac.ke/departments/library/wp-content/uploads/2015/04/POLICY-JKUAT-Digital-Repository-Policy31.pdf. |
| Kenyatta University
https://ir-library.ku.ac.ke | The repository’s home page includes this text: “Full text access is provided under Creative Commons License.” The university’s open access policy will be found at open access policy will be found at: http://library.ku.ac.ke/wp-content/uploads/2013/01/Library-IR-Policy.pdf. |
| Moi University
http://ir.mu.ac.ke:8080/jspui/ | As of March 2019, with 2,789 records, the Moi University repository is small. Five hundred and eighty-eight resources are citations only. The remainder contain full text. |
<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rift Valley Institute (Sudan Open Archive) <a href="https://www.sudanarchive.net">https://www.sudanarchive.net</a></td>
<td>“The Sudan Open Archive offers free digital access to knowledge about all regions of Sudan. It is an expanding, word-searchable, full-text database of historical and contemporary books and documents. The current version, SOA 3.0, includes two new special collections: the first thirty-two volumes of Sudan Notes and Records, Sudan’s flagship scholarly journal, and the collected papers of the late Sudan scholar, Richard Gray.”</td>
</tr>
<tr>
<td>Strathmore University <a href="https://su-plus.strathmore.edu">https://su-plus.strathmore.edu</a></td>
<td>There are almost 2,600 resources in the Strathmore repository collection. Although all contain a full citation including an abstract, full text is not available for every one of them.</td>
</tr>
<tr>
<td>United States International University <a href="http://erepo.usiu.ac.ke">http://erepo.usiu.ac.ke</a></td>
<td>Although full text is freely available, some resources such as theses, are fully copyrighted with all rights reserved.</td>
</tr>
<tr>
<td>University of Nairobi <a href="http://erepository.uonbi.ac.ke">http://erepository.uonbi.ac.ke</a></td>
<td>The University of Nairobi institutional repository is quite large, with over 38,000 theses and dissertations and other research resources. Most theses and dissertations are full text, with a CC BY license, although some have a citation and an abstract, nothing more. The university’s open access policy will be found at <a href="http://uonlibrary.uonbi.ac.ke/node/1482">http://uonlibrary.uonbi.ac.ke/node/1482</a>.</td>
</tr>
</tbody>
</table>

**Table 10: Repositories in Namibia**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Namibia <a href="http://repository.unam.na">http://repository.unam.na</a></td>
<td>The thesis/dissertations collection contains full text, abstracts, and citations. The same is true for other collections in the repository. According to the University of Namibia Scholarly Communication Policy, members of the university community are required to provide the library with copies of their scholarly output in instances where they maintain copyright control. In addition, the university encourages authors to publish in open access formats. The policy will be found at <a href="https://www.idea-phd.net/images/UNAM-Scholarly-Communication-Policy.pdf">https://www.idea-phd.net/images/UNAM-Scholarly-Communication-Policy.pdf</a>. Although theses and dissertations are included in the repository, the policy does not provide any guidelines for their inclusion.</td>
</tr>
</tbody>
</table>

**Table 11: Repositories in Nigeria**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmadu Bello University <a href="http://kubanni.abu.edu.ng/jspui/">http://kubanni.abu.edu.ng/jspui/</a></td>
<td>The “Open Air” repository contains more than 9,000 records. Although no licensing information is given for individual resources, it is an open access repository.</td>
</tr>
<tr>
<td>University of Ibadan <a href="http://ir.library.ui.edu.ng">http://ir.library.ui.edu.ng</a></td>
<td>The repository contains about 4,000 records, many of them theses and dissertations. A few of the older ones have citations and abstracts only, no full text.</td>
</tr>
<tr>
<td>University of Jos <a href="http://irepos.unijos.edu.ng/jspui/">http://irepos.unijos.edu.ng/jspui/</a></td>
<td>According to a paper presented by Stephen A. Akintunde, PhD and Daniel Igoche of the University of Jos library, the university, which established its repository in 2009, was the first in Nigeria to do so. The repository deposit policy mandates that all publications for promotion assessment must be provided to the</td>
</tr>
</tbody>
</table>

---

102 [https://www.sudanarchive.net](https://www.sudanarchive.net)
University of Lagos
https://ir.unilag.edu.ng

The repository was created to provide “open and permanent access to University of Lagos scholarship thereby ensuring its wide dissemination and increased visibility online.” Full text of some theses and dissertations are only available after requesting assistance from the librarian.

University of Nigeria
http://www.unn.edu.ng/internals/repository/show

There are almost 15,000 items in the repository, but some lack dates and there is no licensing information. The university also maintains an OER page: https://oer.unn.edu.ng/, which carries a CC BY license. There may be some overlap between resources in the repository and the OER collection because the latter includes materials that are normally considered open access, such as journal articles, theses, and dissertations, as well as teaching materials.

Table 12: Repositories in Rwanda

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genocide Archive of Rwanda <a href="http://genocidearchiverwanda.org.rw/index.php/Welcome_to_Genocide_Archive_Rwanda">http://genocidearchiverwanda.org.rw/index.php/Welcome_to_Genocide_Archive_Rwanda</a></td>
<td>The Genocide Archive of Rwanda is not a repository, but it is an important Rwandan resource for anyone interested in mapping and documenting the genocide. The archive has the following access policy: “The Genocide Archive of Rwanda encourages you to use the content on this website for personal, educational, and other noncommercial purposes.”</td>
</tr>
<tr>
<td>University of Rwanda <a href="http://dr.ur.ac.rw">http://dr.ur.ac.rw</a></td>
<td>With fewer than 400 records, the University of Rwanda repository is very small. Full text is available, but no licensing information given.</td>
</tr>
</tbody>
</table>

Table 13: Repositories in Senegal

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheikh Anta Diop University <a href="http://196.1.97.20/greenstone/cgi-bin/library.cgi?site=localhost&amp;a=p&amp;p=about&amp;c=theses&amp;l=fr&amp;w=utf-8">http://196.1.97.20/greenstone/cgi-bin/library.cgi?site=localhost&amp;a=p&amp;p=about&amp;c=theses&amp;l=fr&amp;w=utf-8</a></td>
<td>The university has a French-language repository, which is not easy to navigate.</td>
</tr>
</tbody>
</table>

Repositories in South Africa

Almost every South African university has established an institutional repository. The University of the Witwatersrand maintains a page with links to South Africa’s university and research repositories: http://libguides.wits.ac.za/c.php?g=145383&p=956647. In addition, the National Research Foundation coordinates a national system for mounting South African university theses and dissertations., which can be found at http://www.netd.ac.za/. The portal helps coordinate, manage, monitor and support the development of electronic theses and dissertations programs at

---

Stephen A. Akintunde, PhD and Daniel Igoche, Time Check: Ten Years of IR at the University of Jos, paper presented at West and Central African Research and Education Network (WACREN) fifth annual conference, March 14-19, 2019, https://indico.wacren.net/event/71/contributions/498/attachments/424/521/1_stephenpresentation.pdf
South African universities. As of March 2019, 23 South African universities have provided metadata to the portal. Finally, ten universities and research organizations have adopted open access policies, among them the University of Cape Town, the University of the Western Cape, and the University of Witwatersrand. The full list will be found at [http://roarmap.eprints.org/view/country/710.html](http://roarmap.eprints.org/view/country/710.html).

**Table 14: Repositories in Sudan**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sudan University of Science and Technology <a href="http://repository.sustech.edu">http://repository.sustech.edu</a></td>
<td>The following notice appears on the repository home page: “It should be understood that all materials published by Sudan University of Science and Technology SUST on its website or Institutional Digital Repository are intended for scientific research and to support researchers. Therefore, it is strictly prohibited to reprint any material from master’s, doctoral theses or books published on its website without first obtaining written permission from SUST. Any unauthorized reprinting of material or any portion of it gives SUST the authority to prosecute any person found in violation of this provision.” Abstracts are available and some full-text—in Arabic and in English.</td>
</tr>
<tr>
<td>University of Khartoum <a href="http://khartoumspace.uofk.edu">http://khartoumspace.uofk.edu</a></td>
<td>Many of the resources are in Arabic, although some have an English translation of the abstract. There is some full-text in English that can be freely accessed. Some resources are not available without permission.</td>
</tr>
</tbody>
</table>

**Table 15: Repositories in Tanzania**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muhimbili University of Health and Allied Sciences <a href="http://dspace.muhas.ac.tz:8080/xmlui/">http://dspace.muhas.ac.tz:8080/xmlui/</a></td>
<td>The university repository policy will be found at <a href="https://campus.fahce.unlp.edu.ar/pluginfile.php?file=%2FS5763%2Fmod_folder%2Fcontent%2F0%2FRepoMUHAS.pdf&amp;forcedownload=1">https://campus.fahce.unlp.edu.ar/pluginfile.php?file=%2FS5763%2Fmod_folder%2Fcontent%2F0%2FRepoMUHAS.pdf&amp;forcedownload=1</a>. Students are required to deposit their theses and dissertations in the institutional repository. Concerning peer-reviewed scientific articles, the university includes the following instructions: “The University shall oblige faculty and students to immediately deposit the peer reviewed scholarly literature with immediate or deferred access depending on the copyright conditions of the published literature.”</td>
</tr>
<tr>
<td>Open University of Tanzania <a href="http://repository.out.ac.tz">http://repository.out.ac.tz</a></td>
<td>The repository is very small. Although the university does not have an open access or repository policy, there is an OER policy. It can be found at: <a href="https://www.oerafrica.org/system/files/12584/out-open-education-resources-policy-final.pdf?file=1&amp;type=node&amp;id=12584">https://www.oerafrica.org/system/files/12584/out-open-education-resources-policy-final.pdf?file=1&amp;type=node&amp;id=12584</a>.</td>
</tr>
<tr>
<td>Sokoine University of Agriculture <a href="http://www.suaire.sua.ac.tz:8080/xmlui/">http://www.suaire.sua.ac.tz:8080/xmlui/</a></td>
<td>Sokoine University has a small repository. Citations, abstracts, and some full text is available. Some resources are restricted and require permission to access them. Theses and dissertations carry the following copyright notice: “No part of this dissertation may be produced, stored in any retrieval system or transmitted...&quot;</td>
</tr>
</tbody>
</table>

31
in any form or by any means without prior written permission of
the author or Sokoine University of Agriculture on behalf,”
although full text is freely available.

The university also maintains a separate climate change
collection at http://www.taccire.suanet.ac.tz/xmlui/. It is a
collaborative program of five institutions: Ardhi University,
Sokoine University of Agriculture, Tanzania Meteorological
Agency, University of Dar es Salaam (UDSM), and the Norwegian
University of Life Sciences.

University of Dar es Salaam
http://repository.udsm.ac.tz:8080/xmlui/

Unlike other repositories in this appendix, the University of Dar
es Salaam repository does not contain many theses or
dissertations. Many include the citation and abstract, but not
full text. Some were completed by students at European
universities, possibly on a “sandwich” program. Peer reviewed
journal articles constitute the largest part of the repository
collection. Some are full text, but not all of them.

Table 16: Repositories in Uganda

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makerere University</td>
<td>Makerere University does not have a repository policy, but on the repository website, there is full copyright information, including open access possibilities for the university community. Makerere University also collaborates with the Africa Portal, an online repository of open access library collections, which includes books, journals, and digital documents on African policy issues. The Africa Portal is an initiative of the Centre for International Governance Innovation, Makerere University, and the South African Institute of International Affairs. The Africa Portal is located at: <a href="http://www.africaportal.org/library">http://www.africaportal.org/library</a>. Students must submit paper and electronic copies of their theses and dissertations to the Directorate of Research and Graduate Training. The hard copies are then sent to the Makerere University library, where abstracts are uploaded to the Makerere University institutional repository. Authors are encouraged to upload full text.</td>
</tr>
<tr>
<td><a href="http://dspace.mak.ac.ug">http://dspace.mak.ac.ug</a></td>
<td></td>
</tr>
</tbody>
</table>

Table 17: Repositories in Zambia

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Zambia</td>
<td>As of May 2019, the University of Zambia repository contains over 5,000 resources, over half of them theses and dissertations. Full text is available. Licensing information is unclear. Some theses and dissertations are fully copyright protected, but full text can be downloaded.</td>
</tr>
<tr>
<td><a href="http://dspace.unza.zm:8080/xmlui/">http://dspace.unza.zm:8080/xmlui/</a></td>
<td></td>
</tr>
</tbody>
</table>
### Table 18: Repositories in Zimbabwe

<table>
<thead>
<tr>
<th>Institution</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Zimbabwe</td>
<td>As of March 2019, the University of Zimbabwe institutional repository contains 3,100 full-text resources, almost half of them theses or dissertations.</td>
</tr>
<tr>
<td><a href="http://ir.uz.ac.zw">http://ir.uz.ac.zw</a></td>
<td></td>
</tr>
<tr>
<td>Zimbabwe Open University</td>
<td>The Zimbabwe Open University maintains a small repository, with about 300 full-text resources as of March 2019. Almost all of them are conference papers or journal articles.</td>
</tr>
</tbody>
</table>
Appendix two: Further reading


de la Fuente, G. (2016). Libraries: Roles and opportunities on Open Science, Retrieved March 29, 2019, from https://www.fosteropenscience.eu/content/libraries-roles-and-opportunities-open-science (This work carries a CC BY license.)


Schimmer, R., Geschuhn, K., & Vogler, A. (2015, April 28). Disrupting the subscription journals’ business model for the necessary large-scale transformation to open access. Retrieved March 29, 2019, from https://pure.mpg.de/pubman/faces/ViewItemOverviewPage.jsp?itemId=item_2148961 (This work carries a CC BY license.)

