

## **Institutional repositories and the Regional Universities Forum for Capacity Building in Agriculture network**

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### **Abstract**

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. Universities throughout the world have established such repositories. Africa is no exception. Repositories are particularly important for Africa because they ensure that African research information reaches the global knowledge pool and is recognized for its quality. The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) therefore places a high premium on its own institutional repository and promotes the importance of repositories within its 41-member network of universities.

**Key words:** Institutional repositories, RUFORUM, sub-Saharan Africa, universities

### **Résumé**

Les dépôts institutionnels sont une bibliothèque en ligne qui rassemble, conserve et diffuse des copies numériques de la production intellectuelle d'une institution, en particulier une institution de recherche. Les universités à travers le monde ont mis en place ces dépôts. L'Afrique ne fait pas exception. Les dépôts sont particulièrement importants pour l'Afrique, car ils donnent une garantie pour que les informations de la recherche africaine atteignent le pool mondial de connaissances et soient reconnues pour sa qualité. Le Forum des Universités Régionales pour le Renforcement des Capacités dans l'Agriculture (RUFORUM) met donc une grande importance à son propre dépôt institutionnel et la promotion de l'importance des dépôts dans son réseau de 41 membres des universités.

**Mots clés:** les dépôts institutionnels, RUFORUM, Afrique sub-saharienne, les universités

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### **What is an institutional repository?**

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.<sup>1</sup> Books, research articles, theses and dissertations, and other scholarly resources are included in these repositories, most of which practice open access principles. Universities throughout

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<sup>1</sup> Wikipedia has an excellent article on repositories. Go to: [http://en.wikipedia.org/wiki/Institutional\\_repository](http://en.wikipedia.org/wiki/Institutional_repository).

North America, Europe, and elsewhere have established repositories to promote wide and freely accessible distribution of the research carried out at their institutions.

### **Institutional repositories in sub-Saharan Africa**

Collaborating with the Royal Tropical Institute (KIT) of the Netherlands, the Association of African Universities (AAU) has taken the lead in helping African universities establish open access scholarly archives. The program has created an excellent institutional repository toolkit and holds periodic workshops. There is also an excellent resource list with links to readings on open access principles and software.<sup>2</sup> The AAU has organized two workshops, as well—one in 2009 and one in 2011.<sup>3</sup> The toolkit would be particularly useful for any African institution that has not created a repository but that would be interested in doing so.

The Directory of Open Access Repositories (OpenDOAR) maintains a list of institutional repositories in Africa.<sup>4</sup> But because it is primarily a self-reporting effort, it is not entirely current. Even so, OpenDoar includes 57 universities in 18 sub-Saharan African countries in its database.

Repositories are important within the African context because they ensure that African research information reaches the global knowledge pool and is recognized for its quality. They can increase the visibility not only of the institution, but also of its research. Stellenbosch University, for example, maintains statistics on the number of visits and downloads. Downloads are particularly important because this information tells us whether the repository is useful to visitors. In 2012, SUNScholar received 237,000 web visits and facilitated 89,000 item downloads. In 2013, the numbers increased dramatically—SUNScholar received 353,000 web visits and facilitated 104,000 item downloads.<sup>5</sup> It is for these reasons that the Regional Universities Forum for Capacity Building in Agriculture, a Network of 41 Universities in Africa (RUFORUM) places such a high premium on its own institutional repository and the deposit of the research output of the RUFORUM network institutionally and through the RUFORUM repository.

### **Institutional repositories in the RUFORUM network**

Of the 41 member universities in 18 countries, 17 of them have either fully functioning institutional repositories or they have an option to input university resources elsewhere, as delineated in Table 1. Another five universities, as shown in Table 2 have non-functional repositories. They were identified using the OpenDOAR database and Google searches. In addition, RUFORUM launched its own institutional repository at the 2013 Annual General Meeting in Kigali, Rwanda.

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<sup>2</sup> <http://www.ir-africa.info/>

<sup>3</sup> The 2009 workshop recommendations can be downloaded at <http://irs.aau.org/outcomes.pdf>. The 2011 report can be downloaded at [http://events.aau.org/userfiles/file/datad11/docs/OAIR\\_accra\\_18\\_19\\_july\\_2011\\_report.pdf](http://events.aau.org/userfiles/file/datad11/docs/OAIR_accra_18_19_july_2011_report.pdf).

<sup>4</sup> <http://www.openoar.org/countrylist.php>

<sup>5</sup> <https://scholar.sun.ac.za/>

**Table 1. RUFORUM network university repositories.**

Country	University and URL	Comments
Botswana	University of Botswana Research, Innovation and Scholarly Archive <a href="http://www.ubrisa.ub.bw/">http://www.ubrisa.ub.bw/</a>	The repository policy will be found at: <a href="http://www.ub.bw/download/doc_id/1767/">http://www.ub.bw/download/doc_id/1767/</a> .
Kenya	Jomo Kenyatta University of Science and Technology (JKUAT) <a href="http://ir.jkuat.ac.ke/">http://ir.jkuat.ac.ke/</a>	The JKUAT repository policy will be found at: <a href="http://www.jkuat.ac.ke/?wpdmact=process&amp;did=NjguaG90bGluaw==">http://www.jkuat.ac.ke/?wpdmact=process&amp;did=NjguaG90bGluaw==</a>
	Kenyatta University (KU) <a href="http://ir-library.ku.ac.ke/">http://ir-library.ku.ac.ke/</a>	The KU repository is reasonably large. Its policy will be found at: <a href="http://library.ku.ac.ke/wp-content/uploads/2013/01/Library-IR-Policy.pdf">http://library.ku.ac.ke/wp-content/uploads/2013/01/Library-IR-Policy.pdf</a> .
	Moi University <a href="http://ir.mu.ac.ke:8080/xmlui/">http://ir.mu.ac.ke:8080/xmlui/</a>	Moi University does not appear to have a repository policy.
	University of Nairobi <a href="http://erepository.uonbi.ac.ke/">http://erepository.uonbi.ac.ke/</a>	The University of Nairobi is very well developed, with a sizable number of resources in the agricultural sciences. Many of the records, however, only contain abstracts. The university's open access policy will be found at: <a href="http://www.oerafrica.org/resource/university-nairobi-open-access-policy">http://www.oerafrica.org/resource/university-nairobi-open-access-policy</a> . It should be noted that authors have the right to designate under which licensing condition their work will be stored in the repository.
Lesotho	National University of Lesotho <a href="http://repository.tml.nul.ls/">http://repository.tml.nul.ls/</a>	The largest collection is the one for past examination papers. The university does not appear to have a repository policy.

**Table 1. Contd.**

Country	University and URL	Comments
Malawi	Lilongwe University of Agriculture and Natural Resources <a href="https://luanar.academia.edu/">https://luanar.academia.edu/</a>	The university does not have an institutional repository, but has registered with Academia.edu with an institutional page. Academics associated with LUANR can mount their research on the Academia.edu LUANR page. Visit the URL at the left.
	Mzuzu University <a href="http://www.ndr.mw:8080/xmlui/handle/123456789/1">http://www.ndr.mw:8080/xmlui/handle/123456789/1</a>	Mzuzu University does not have an institutional archive, but it has input three records into the Malawi National Digital Repository. If the university does not wish to establish its own repository, it could continue to use this one. Both LUANR and the University of Malawi are listed in this repository, but have not begun to use it.
Mozambique	Eduardo Mondlane University <a href="http://www.saber.ac.mz/">http://www.saber.ac.mz/</a>	There is a collaborative university repository in Portuguese for Mozambique in which Eduardo Mondlane University is a part. The Catholic University does not participate. There are no resources in the agricultural sciences at all.
Namibia	University of Namibia <a href="https://repository.unam.na/">https://repository.unam.na/</a>	The university does not seem to have a repository policy.
South Africa	Stellenbosch University <a href="https://scholar.sun.ac.za/">https://scholar.sun.ac.za/</a>	The Stellenbosch University research repository is large, as is the collection of resources in the agricultural sciences.
	University of the Free State <a href="http://etd.uovs.ac.za/cgi-bin/ETD-browse/browse">http://etd.uovs.ac.za/cgi-bin/ETD-browse/browse</a>	The University of the Free State does not have a full-fledged institutional repository, but it does mount the full text of its theses and dissertations online.

Table 1. Contd.

Country	University and URL	Comments
Tanzania	Sokoine University of Agriculture <a href="http://www.taccire.suanet.ac.tz/xmlui/">http://www.taccire.suanet.ac.tz/xmlui/</a>	The university as a whole does not have a repository, but there is a Tanzania Climate Change Information Repository, which is up-to-date. This is a collaborative program with five institutional partners—Ardhi University (ARU), Sokoine University of Agriculture (SUA), the Tanzania Meteorological Agency (TMA), the University of Dar es Salaam (UDSM) and the Norwegian University of Life Sciences (NMBU).
Uganda	Makerere University <a href="http://dspace.mak.ac.ug/">http://dspace.mak.ac.ug/</a>	Makerere University does not seem to have a repository policy.
Zambia	University of Zambia <a href="http://dspace.unza.zm:8080/xmlui">http://dspace.unza.zm:8080/xmlui</a>	The University of Zambia does not seem to have a repository policy.
Zimbabwe	Lupane State University <a href="http://41.220.19.156:81/cgi-bin/koha/opac-user.pl">http://41.220.19.156:81/cgi-bin/koha/opac-user.pl</a>	Lupane State University has an institutional repository, but it is restricted to members of the university community and requires a log-in and password.
	University of Zimbabwe <a href="http://ir.uz.ac.zw/jspui/">http://ir.uz.ac.zw/jspui/</a>	The University of Zimbabwe (UZ) repository has an interesting feature in addition to the ability to search for UZ resources. Visitors can also link to other relevant databases, such as the Networked Digital Library of Theses and Dissertations (NDLTD), an international organization dedicated to promoting the adoption, creation, use, dissemination, and preservation of electronic theses and dissertations (ETDs). Members of the UZ community can search the SHERPA/RoMEO <sup>6</sup> database to ascertain journal copyright policies so that they will know whether it is legally permissible for them to deposit copies of their research articles in the repository.

<sup>6</sup> SHERPA/RoMEO was developed by the University of Nottingham in the UK to provide guidance to researchers on the copyright policies of journals. For more information on open access and copyright, see “Open Access Publishing and the RUFORUM Network,” Lisbeth Levey, RUFORUM, June 2014

**Table 2. Universities with a non-functional repository URL.**

University and URL	Comments
Egerton University <a href="http://ir-library.egerton.ac.ke/">http://ir-library.egerton.ac.ke/</a>	There is a functioning URL for the repository, but no resources.
Uganda Christian University <a href="http://dspace.ucu.ac.ug/">http://dspace.ucu.ac.ug/</a>	There is a functioning URL for the repository, but no resources.
Uganda Martyrs University <a href="http://chisimba.umu.ac.ug:8081/xmlui/">http://chisimba.umu.ac.ug:8081/xmlui/</a>	There is a repository link, but it does not work.
University of Khartoum <a href="http://khartoumspace.uofk.edu:8080/jspui/handle/123456789/1">khartoumspace.uofk.edu:8080/jspui/handle/123456789/1</a>	There is a repository link, but it does not work.
University of Rwanda <a href="http://repository.nur.ac.rw/">http://repository.nur.ac.rw/</a>	There is a link to a repository from the library website, but it does not work.

The RUFORUM Repository provides a home for research output carried out by network members and the Secretariat—case studies, policy briefs, theses and dissertations, journal articles, extended abstracts from conferences, and more. All resources mounted in the Repository are classified as Open Access and freely available to all. In addition to general search engines, such as Google, output from the Repository is now indexed in important agricultural indexing and abstracting services, such as AGRIS and CABI. The Repository is also listed in OpenDOAR and other repository databases.

Of the network institutional repositories, most are small, a handful are well established, and none include many resources in the agricultural sciences. Most have repository policies. Below is a table of those universities with fully functioning repositories, organized alphabetically by country. Those universities with well-established repositories are indicated in the comments section, as are any that include a large number of resources in the agricultural sciences. Unless otherwise indicated, the repositories are small.

### **Conclusions, challenges, and recommendations**

A few universities have URLs for a repository but the link does not work for one reason or another. Given that RUFORUM's mission is to promote postgraduate training and research in the agricultural sciences, it is probably beyond RUFORUM's remit to engage with its network universities to create and maintain repositories beyond to encourage them to do so. In addition to the AAU and KIT, mentioned above, EIFL (Electronic Information for Libraries)<sup>1</sup> has been promoting open access and institutional repositories for several years. EIFL works throughout sub-Saharan Africa. RUFORUM should encourage African universities to link with AAU, KIT, and EIFL. In addition it would be useful to find out from LUANAR about how they established the LUANR page on Academia.edu and how this service has been publicized. As another suggestion, Stellenbosch University has mounted a

Wiki with practical guidelines for institutions in the RUFORUM community interested in establishing a repository.<sup>2</sup> RUFORUM should encourage its network constituents to follow LUANAR's example. It seems to be a creative strategy. But 17 network universities have established repositories or have other ways to promote the circulation of their research output. Repositories, range in size from very small to quite large. RUFORUM could work with these network members on the importance of depositing their research in the agricultural sciences in their institutional repositories and the significance of open access. In addition, the RUFORUM institutional repository could provide a home for the research literature published by both network members without institutional repositories of their own and also for universities with repositories. The RUFORUM repository is indexed in CABI and AGRIS, two important databases in the agricultural sciences. Therefore, all research in the repository has a better chance of reaching academics and research in the disciplines of relevance to RUFORUM. It might also be useful to explore the possibility of university collections within the repository, which would further serve to highlight the research of members of the RUFORUM network.

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