

# Digital research repositories in Africa

Digital repositories offer considerable potential as a means to improve access to research, but how are they working in practice and what are the barriers to their greater use? Here, **Stephanie Kitchen** reports on the findings of a survey exploring the repository landscape in Africa.

**I**nstitutional repositories are an increasingly significant component in the provision of academic publication and information resources. They are being developed throughout the world as a consequence of the availability of scholarly resources in digital formats, and in response to open access policies and mandates.

In a joint statement, UNESCO and the Confederation of Open Access Repositories stressed the value of repositories in an open access environment, advocating less focus on developing journals and more on repositories. In contexts where resources for traditional publications are lacking, freely accessible research outputs via such repositories may offer considerable potential.

To gain a better sense of the existing repository landscape in Africa, the International African Institute (IAI) collated and published on its website a list of all known institutional repositories. We then undertook a survey of a selected number. In total, 18 institutions and universities responded, representing about a third of the institutions approached.

## Key findings and learning

- **Incentives to deposit can improve staff engagement.** In general, repositories receive more support from the highest level of the university than from academic staff. Policies that incentivise academics to deposit their work – e.g. that require this for assessment, promotion and advancement – improve staff engagement with the repository. This is a key finding of the survey, reflecting general assumptions about the effectiveness of repositories elsewhere in the world.
- **All the university repositories include theses, both at Master's and doctoral levels.** At least 80% require candidates completing Master's or PhD degrees to deposit their theses. In many cases, this is required in order to be awarded the degree.
- **A variety of other material is stored, including journal articles, reports, and older material produced prior to the creation of the repository.**
- **100% of repositories surveyed operate an open access policy, although several have embargo policies and one does not allow items to be downloaded.** The repositories with licensing policies in place mainly use Creative Commons; repositories otherwise endeavour to respect national and publisher copyright policies.
- **Initial findings show considerable usage of the larger repositories.** The University of South Africa, which has one of the largest holdings, reported having logged nearly 10 million full-text views in 2015.
- **When it comes to software, 14 repositories use DSpace, two use Eprints, and two use Greenstone.** Almost a third of the repositories experience problems with software updates when using new versions of DSpace. Additional IT problems in some countries, including broadband availability and speeds, affect the operation of repositories.
- **Staff numbers within university repositories are usually modest, involving one or two members of staff.** At least a third of the repositories face difficulties with staff shortages and lack of training for staff. Librarians often have to do extra work for the repository; or traditional library staff may not be fully supportive. General training and information sharing about the potential of repositories, as well as specific technical or software training for library and repository staff, therefore emerge as key 'needs' for the sector.
- **Around half the repositories have a preservation plan in place; others are working on policies.**
- **More needs to be done to promote repositories through aggregators and libraries.** While some repositories (particularly in South Africa) are configured to a standard that can be harvested by national, regional, or international repositories, the picture is more mixed overall. Much remains to be done to render repositories more useful as research tools in terms of promoting them through national and international aggregators and libraries, via subject repositories, internet-based indexes, and search engines. More opportunities for repository managers to meet and network regionally and continentally, both in person and virtually, would be a positive step.
- **Greater understanding of the benefits is needed.** Work needs to be done by repository managers, university administrations and leaders, and via scholarly journals, to spread understanding among academics of the potential benefits of repositories. In particular, worries need to be allayed that placing work in a repository might make it more difficult for an academic to subsequently publish their research, as well as fears about plagiarism.
- **Limited funding is the main barrier to digitising materials produced prior to the creation of the repository.** The majority of repositories would, however, like to engage in such retrospective digitisation of hard copy materials.

## Numbers of institutional repositories in Africa

Algeria: 1; Botswana: 1; Burkina Faso: 1; Cameroon: 1; Cape Verde: 2; Egypt: 5; Ethiopia: 2; Ghana: 5; Kenya: 16; Malawi: 1; Morocco: 3; Mozambique: 1; Namibia: 2; Nigeria: 14; Senegal: 3; Sierra Leone: 2 (1 of which is not yet live); South Africa: 36; Sudan: 5; Tanzania: 8; Togo: 1; Tunisia: 1; Uganda: 2; Zambia: 1; Zimbabwe: 8 (Total: 122)

### Case studies

#### AAU-BTD – Addis Ababa University Libraries Electronic Thesis and Dissertations Database (Ethiopia)

This repository holds 7,800 items, including doctoral and Master's theses, deposited at a rate of 70%.

There is increasing demand from students and other users to access the database. Recent statistics show a total of 476,485 item views, 638,166 searches performed, and 690 user log-ins.

The repository employs two staff: a digital librarian and an institutional repository manager, responsible for the day-to-day operation of the repository. While support from top levels of the university is considered good, support from external funders and academic staff is perceived as poor.

The lack of budget to digitise the backlog of print theses and dissertations was highlighted as the main issue for the repository.

#### Bibliothèque Numérique Université Cheikh Anta DIOP (Senegal)

This repository contains 9,134 items, of which 6,569 are theses, 1,524 are articles from researchers and lecturers, and 129 are rare and valuable books (old collections).

All documents are fully accessible and visible, but not downloadable. The deposit of theses in the repository is compulsory.

The main problems are the scarcity of appropriate infrastructure (scanners, servers, etc), lack of training on the preservation of digital documents, shortfall of human resources, and a poor internet connection, which affects speed and uploading processes.

#### KhartoumSpace – University of Khartoum Repository (Sudan)

This repository contains 19,888 items, of which 11,414 are theses and dissertations, 3,930 are draft or published journal articles, 411 are book chapters or books, and 3,207 are reports. All items are full text.

An open access policy has been prepared for signature by the university vice-chancellor. Copyright policies are published and accessible.

It is estimated that around 60% of theses and dissertations are deposited, and almost all journal articles and book chapters. After a degree is awarded, a thesis must be deposited as an abstract for five years, after which the full text will be deposited by repository staff. As regards other publications, 'no staff member is upgraded unless his/her publications are deposited in KhartoumSpace', which is likely to explain the high rate of article deposits. Support from both academic staff and high-level university administration is given the top rating.

The repository has begun retrospective digitisation of some print theses and other material. This would be expanded with additional funding.

## Work needs to be done by repository managers, university administrations and leaders, as well as via scholarly journals, to spread understanding among academics of the potential benefits of repositories.

#### UnisaIR – University of South Africa Institutional Repository

This repository holds 17,000 items, including theses and dissertations, draft or published journal articles, book chapters or full-length books, reports, and a limited number of research datasets, inaugural lectures, and archival materials. All items are accessible in full text.

Students are required to submit a digital copy of their thesis or dissertation to UnisaIR. The repository has started digitising a number of theses and dissertations preceding the creation of the repository, and this could be expanded with more funding.

The highest level of the university is rated as giving basic/good support (3 out of 5). Support from academic staff and external funders is considered poor (2 and 1 out of 5).

The repository uses DSpace, but an external service provider has been contracted to give support. The lack of online storage capacity is an ongoing challenge and the current preservation plan is considered inadequate.

There has been a very high and constantly increasing demand for the resources contained within the repository: during 2015, the repository logged almost 10 million full-text views.

#### University of Dar es Salaam Research Repository (Tanzania)

This repository holds 1,800 items, with more being uploaded. It includes doctoral theses and Master's dissertations, published journal articles, book chapters or full-length books, reports, conference papers, and conference proceedings. The items are a combination of full text or lists of items held as physical copies.

A process of digitising the university's old research output has started (some items are already stored in the repository) and is ongoing.

There is one person currently working full time on the repository. While support from the highest levels in the university and from external funders is considered very good, the repository does not receive as much support from academic staff. Other problems include irregular electricity supplies and an often slow internet connection.

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For more information about the IAI's research in this area, including a list of known repositories in Africa, visit [www.internationalafricaninstitute.org/repositories.html](http://www.internationalafricaninstitute.org/repositories.html)