

"Open access has made me more visible to my fellow researchers and also to funding bodies that are looking for people working in my area. I have been able to build new relationships. People see my work and they want to collaborate."

-PROFESSOR MARY ABUKUTSA-ONYANGO, JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

When EIFL organized the first-ever workshop on open access in Kenya in 2010, there was intense interest from researchers, students, university administrators, journal editors and librarians from across the country.

This was the first encounter with open access for many of the people who took part in the workshop – and it struck a chord. "Immediately, I could see how open access would be very helpful to me and other researchers in Kenya and in Africa," said Professor Mary Abukutsa-Onyango, from Jomo Kenyatta University of Agriculture and Technology (JKUAT).

Open access (OA) is a scholarly communications model that makes scholarly research freely available online. It offers a powerful solution for researchers in East Africa who are doing important research and who want their work to be visible to the global scientific community.

The 2010 workshop, at the University of Nairobi, marked the start of wide-ranging EIFL activities to promote OA in three countries in East Africa: Kenya, Tanzania and Uganda. The activities included support for OA awareness-raising and advocacy campaigns; setting up new and improving existing institutional OA repositories, and drafting OA policies that would encourage researchers to deposit their work in institutional repositories.

Spearheading work in the three countries were our partner library consortia – the Kenya

Libraries and Information Services Consortium (KLISC), which joined the EIFL network in 2008; the Consortium of Tanzania Universities and Research Libraries (COTUL), which joined in 2009, and the Consortium of Uganda University Libraries (CUUL), which joined in 2011.

OA gained momentum and has put down strong roots in the region. In 2010, there were just seven institutional OA repositories in Kenya, Tanzania and Uganda. By 2017, 64 institutions had set up OA repositories. Together, they are providing access to almost 200,000 journal articles and research papers; books; conference proceedings, and theses and dissertations.

CONTRIBUTION TO NATIONAL DEVELOPMENT

Prof Abukutsa-Onyango is Deputy Vice-Chancellor (Research, Production and Extension) and Professor of Horticulture at JKUAT. Over the past two decades she has conducted extensive research into African indigenous vegetables: "My research has shown that African indigenous vegetables, like vegetable amaranth, jute mallow and African kale, have a part to play in addressing three major problems in Africa – poverty, malnutrition and food insecurity," she said.

However, when she tried to publish her research in well-known international journals, she hit a wall: "They did not accept it – not

because the research was not good, but because they regarded the crops I was writing about as weeds."

After many rejections, she came across the African Journal of Food Agriculture and Development (AJFAND), which is an OA journal: "It was like a godsend! That's when my work started becoming internationally recognized. I received feedback from all over the world."

Prof Abukutsa-Onyango continues to disseminate her research in OA, including depositing it in the JKUAT Institutional Repository, which was set up in 2012 as a result of OA workshops, training and advocacy funded by EIFL. The increased visibility has attracted the attention of the Kenyan government.

"As a result of OA making my work more visible, two things have happened," she said. "Firstly, the National Research Fund (of Kenya) is now funding research into African indigenous vegetables, and secondly, it is now Government policy to support farming of underutilized crops, including African indigenous vegetables. There is active promotion of African indigenous vegetables and one of the flagship projects in Kenya is the Natural Products Initiative, which aims to commercialize local products, including African indigenous vegetables."

INCREASED VISIBILITY OF UNIVERSITIES AND RESEARCH

University of Nairobi, with almost 75,000 students, is the largest and oldest university in Kenya. In 2012, the university was setting up an OA repository with support from EIFL. Professor Lucy W. Irungu, who was then the university's Deputy Vice-Chancellor, Research, Production and Extension, believed that a clear OA policy mandating researchers and PhD students to deposit their output in the repository, and guiding them on how to do this. was needed.

"I found that the library had developed an OA policy, but did not know how to approach management to get it accepted. At the same time, the university Vice-Chancellor was concerned about the university's rankings. His dream was for the university to be ranked among the top 10 universities in Africa," she recalls.

In 2012, Webometrics Ranking of World Universities ranked University of Nairobi at number 14. Webometrics Ranking of World Universities ranks universities based on the volume of their online contents and the visibility and impact of their web publications, including the number of citations to research outputs.

"I explained to the Vice-Chancellor that if we embraced OA, and signed the Berlin Declaration [an international statement that demonstrates institutional commitment to OA], our rankings would improve. After that, the university signed the Declaration and management accepted the OA policy. We received a server, scanners and additional personnel for digitizing and uploading our papers to the repository. We have moved ahead in leaps and bounds."

Expansion of the repository's contents immediately produced results. "In June 2013 the repository recorded about 2.6 million hits (visits). In December 2013, we had about 4.2 million hits. In just six months the number almost doubled," said Prof Irungu.

By the end of 2014, University of Nairobi was placed 9th in Africa by the Webometrics Ranking of World Universities, and 1st in Kenya. In 2017 the university was ranked 7th out of 1,493 universities in Africa. There have been over 63 million downloads from the repository since 2013.

NEW OPPORTUNITIES AND IMPROVED CAREERS

Prof Mary Abukutsa-Onyango attributes invitations to join new research projects, to give keynote speeches at conferences, and to undertake consultancies, to the way in which OA has increased visibility of her work.

"People see my work and they want to collaborate. For example, I was hired as a consultant by GAIN (the Global Alliance for improved Nutrition) in 2014, to conduct nutrient retention studies on three fresh and dried vegetables. There was no rigorous interview – they appointed me on the basis of the work I published in OA.

"In addition, I have been awarded prizes. Most recently, I received the Edinburgh Medal of 2014, for the impact of my research on indigenous vegetables, agrobiodiversity and public health on humanity. The medal was given purely based on research I published in the open domain," said Prof Abukutsa-Onyango.

"Our researchers' profiles have improved," said Prof Irungu. "We have seen an increase in the number of grant applications that are being submitted and the number of new networks formed. People from other countries are contacting us from out of the blue! They have seen the kind of work we are doing and they want to partner with us," she said.

IMPROVED TEACHING AND RESEARCH

Richard Sebaggala is a researcher and lecturer in economics at Uganda Christian University (UCU), which was the first university in Uganda to adopt an OA policy, in 2014, as a result of the first EIFL supported OA policy workshop in 2012.

He is an ardent supporter of OA and deposits his research in the UCU Digital Institutional Repository (UCUDIR). "When the students visit the repository they are able to read my research see the links between the theory that I am teaching, and how this theory is applied in practice," he said.

"UCUDIR and other OA repositories are extremely important. When my students need to read articles to compare our situation in Uganda with what is happening elsewhere in the region, I know they will be able to find good quality research that is freely available. This has made a difference to the quality of their thinking and ideas. They are more able to come up with research topics that are relevant to Uganda, and that will help our country grow and develop," he added.

Open access creates a global platform for discussion and feedback. "You have to make sure that your research is of a very high quality if you want it out there in the open. It has to be good, something that you are proud of,

so I think that OA has also created greater awareness about the need to adhere to academic principles and standards. Research must be more relevant, and there is less duplication," said Prof Irungu.

GROWTH OF OPEN ACCESS CONTENT

Kenyan universities are leading the way, with a total of 42 OA repositories. In Tanzania 13 universities and in Uganda nine universities have set up OA repositories with EIFL support.

In all three countries, the number of OA policies mandating researchers and PhD students to deposit their work in the repositories is steadily increasing. Once adopted, the policies will further boost the amount of research from the region that is openly available, with positive outcomes for economic and social development, research and teaching.

Encouraging students and researchers to practise OA was the goal of another EIFL partner, Tanzania´s Muhimbili University of Health and Allied Sciences (MUHAS).

"Our curriculum on information literacy also includes awareness of OA. We organize workshops which are open to all, and which attract post-graduate students and we organize seminars on OA for academic staff. As a result, more students and researchers are depositing their papers in our OA repository, which was set up in 2011," said Associate Librarian Professor Tandi Lwoga.

At UCU, said Sebaggala, staff are increasingly being encouraged to deposit in the repository whenever they publish, and also to deposit unpublished research. "We are using the argument that this will make their research more visible," he said.

OA has its own incentive, he added: "You ask any researcher, the first paper you publish stimulates you to publish more."

RESULTS OF EIFL'S WORK IN KENYA. TANZANIA AND UGANDA

From 2010 to 2017 EIFL supported almost 300 open access awareness-raising and advocacy campaigns, workshops and events:

- 33 open access policies adopted, or drafted and under review
- 57 new repositories set up
- **186,626 documents available** in the repositories
- Millions of research papers downloaded from the repositories

EIFL's OA work in Kenya, Tanzania and Uganda is supported by Open Society Foundations and SPIDER (the Swedish Programme for ICT in Developing Regions DSV, Department of Computer and System Sciences, Stockholm University).

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GET IN TOUCH

Mail: Mindaugo str. 23, LT-03214 Vilnius, Lithuania

Tel: +370 5 2080409 Fax: +370 5 2080410 Email: info@eifl.net

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