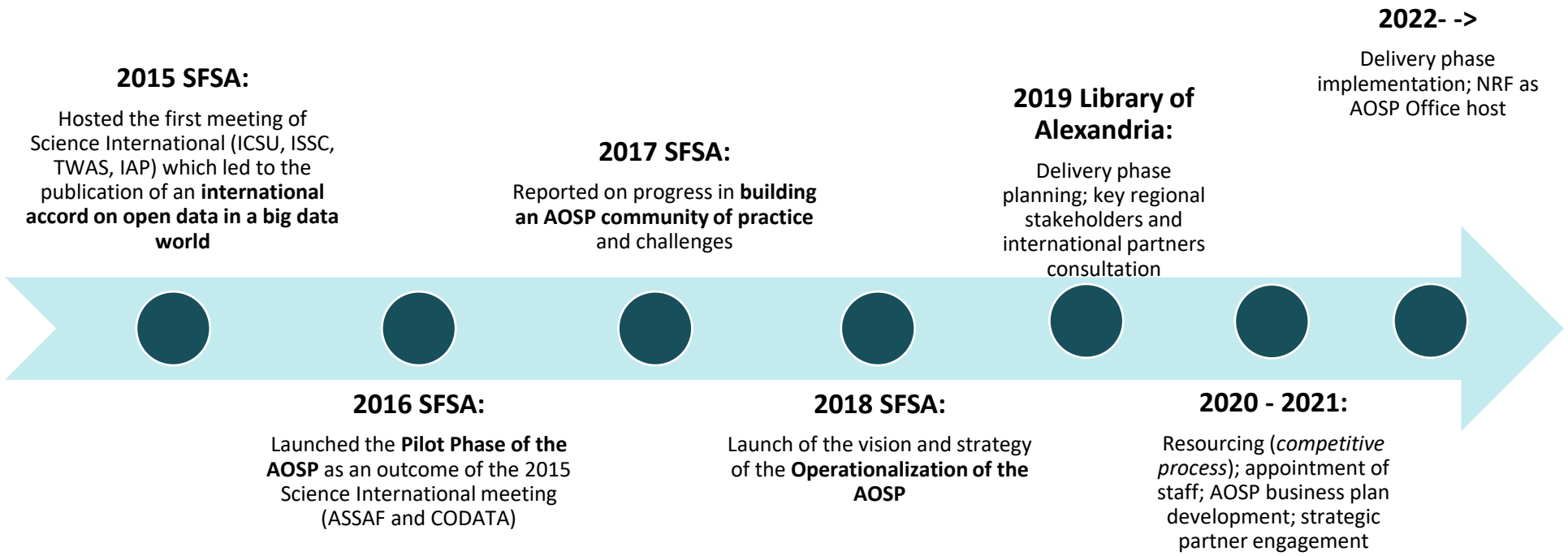
AOSP - Towards a continental Open Science Vision

Dr Nokuthula Mchunu: Deputy Director

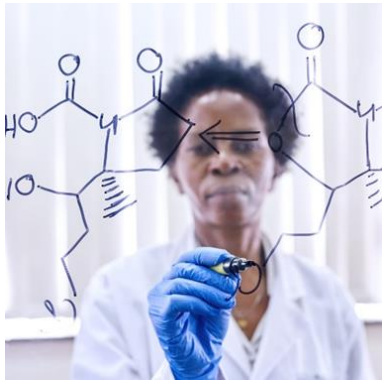
AOSP - EVOLUTION



African Open Science Platform (AOSP) - Vision and Strands

"African scientists are at the cutting edge of contemporary, data-intensive science as a fundamental resource for a modern society. They are innovative global exponents and advocates of Open Science and leaders in addressing African and Global Challenges."

- ✓Develop a federated network of computational facilities and services, software tools and advice on policies and practices of research data management,
- ✓Develop Data Science and AI Institute spanning and embedded at African institutions,
- ✓Promote collaboration on African priority application programmes – ranging from health, biodiversity, disaster risk reduction, agriculture and open innovation resilient cities etc.,
- ✓Create a Network for Education and Skills in data and information,
- ✓Create a Network for Open Science Access and Dialogue.



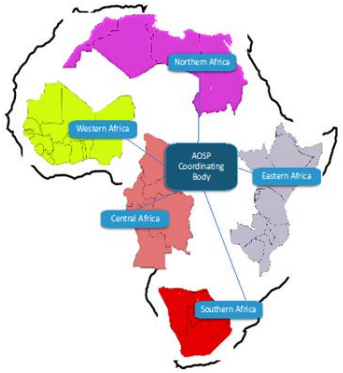
AOSP Goal

- ✓ Positioning African scientists at the cutting edge of data intensive science
- ✓ Stimulating interactivity
- ✓ Creating opportunity through the development of efficiencies of scale
- ✓ Building critical mass through shared capacities
- ✓ Amplifying impact through a commonality of purpose and voice.

Open Science Imperatives for Africa

- ✓ **Policy**
- ✓ **Development of Commons to solve continental and global Challenges**
- ✓ **Promotion of best practices of open science Data**
- ✓ **Open Access/communication and assessment/reward**

Nodes



National Research Foundation

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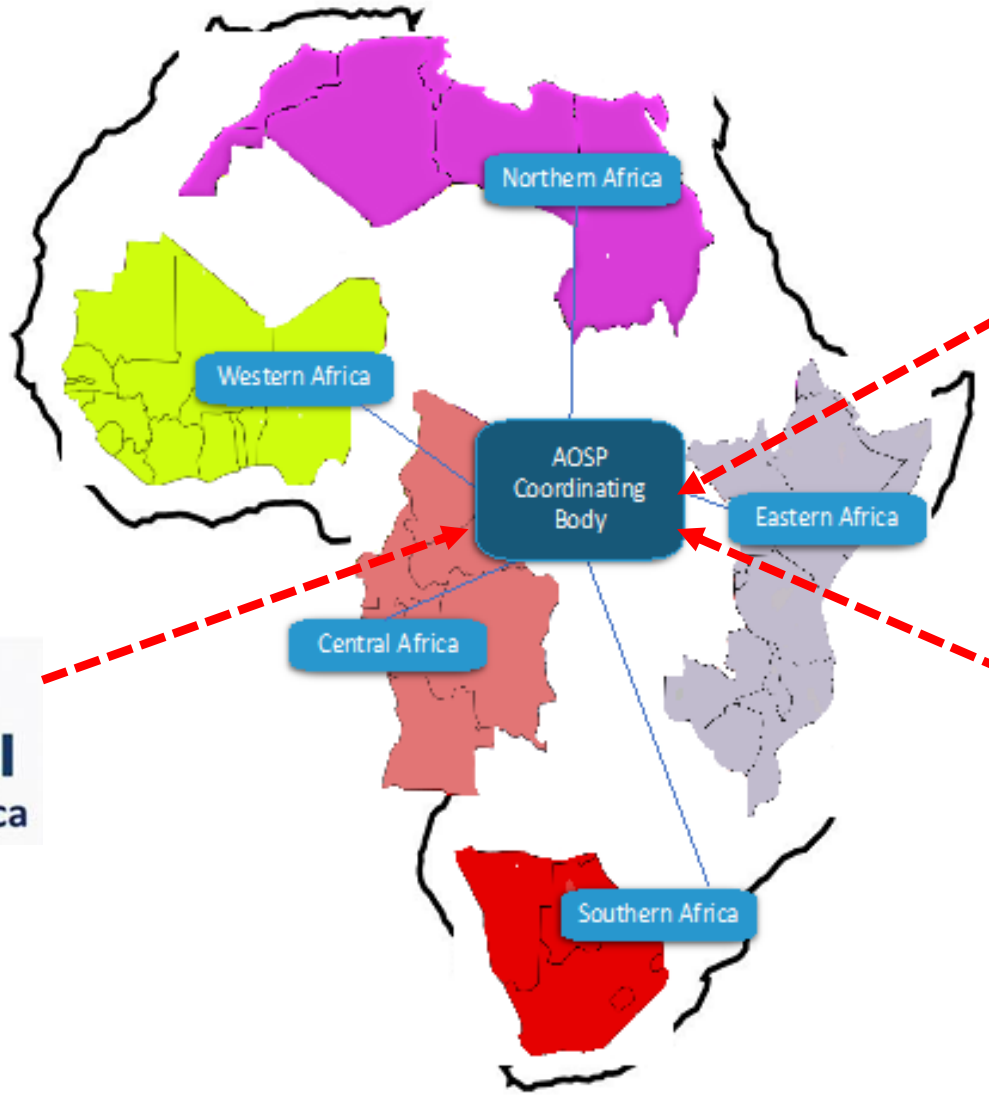
CALL FOR EXPRESSIONS OF INTEREST

Establishment of the African Open Science Platform (AOSP) Regional Nodes

Applications Submitted 15 January 2023

https://www.nrf.ac.za/call-for-expression-of-interest-establishment-of-the-african-open-science-platform-aosp-regional-nodes/

Regional Nodes



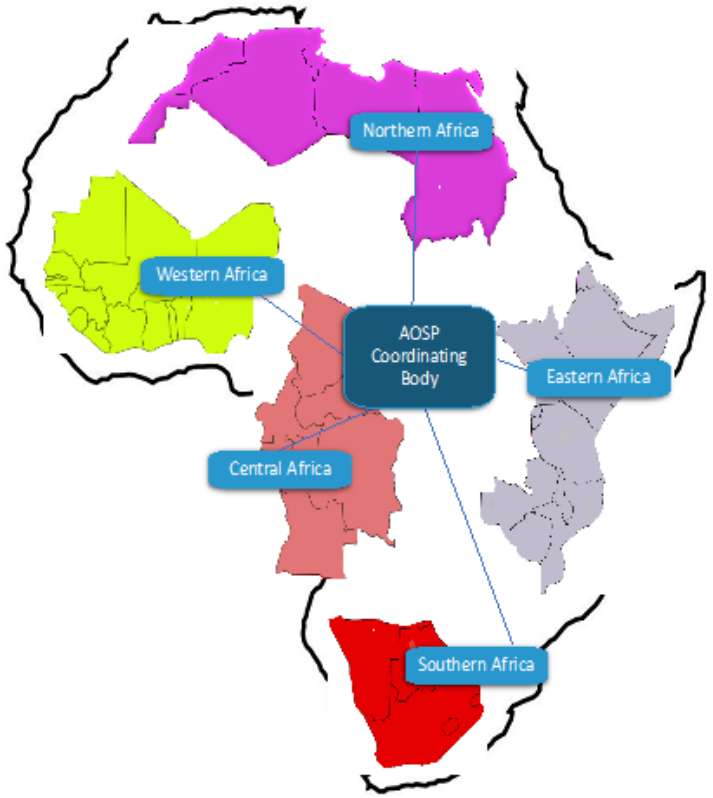
science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

International Science Council
Regional Office for Africa

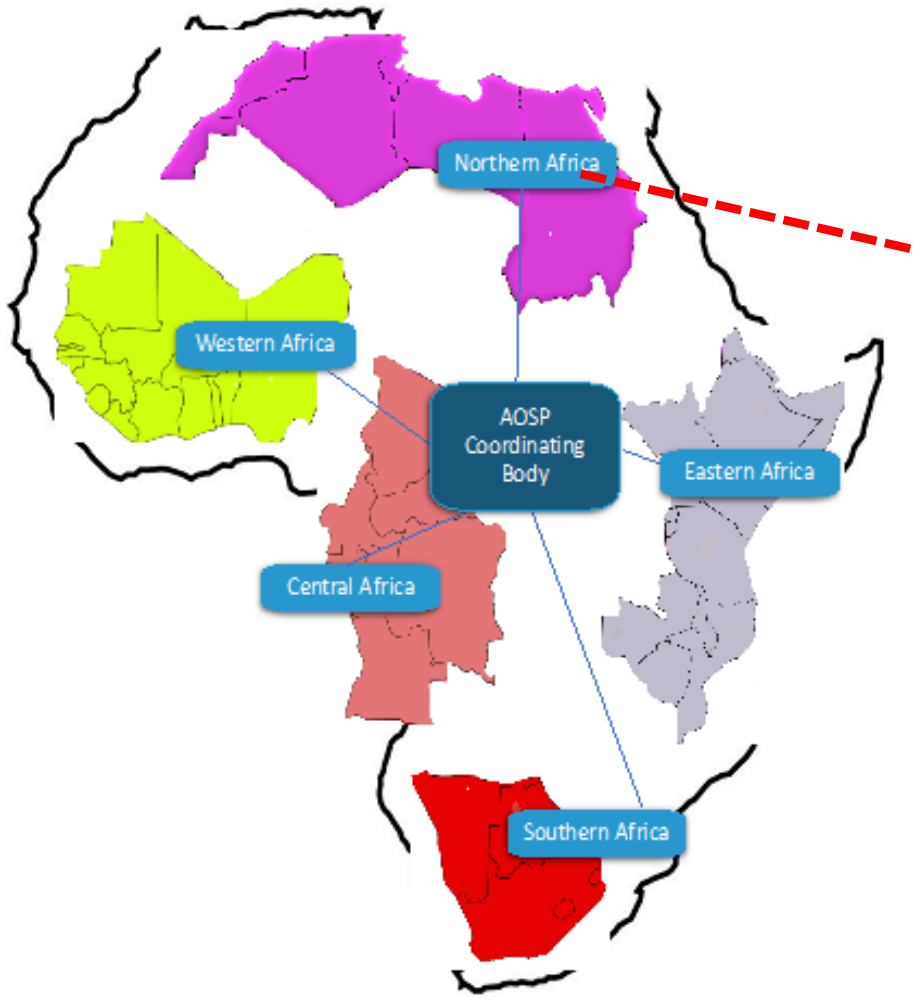
NRF National Research Foundation

Role of Nodes

- ✓ Regional coordination
- ✓ Policy
- ✓ Programme delivery and implementation
- ✓ Education and skills programmes
- ✓ Science communication
- ✓ Societal engagement and dialogue

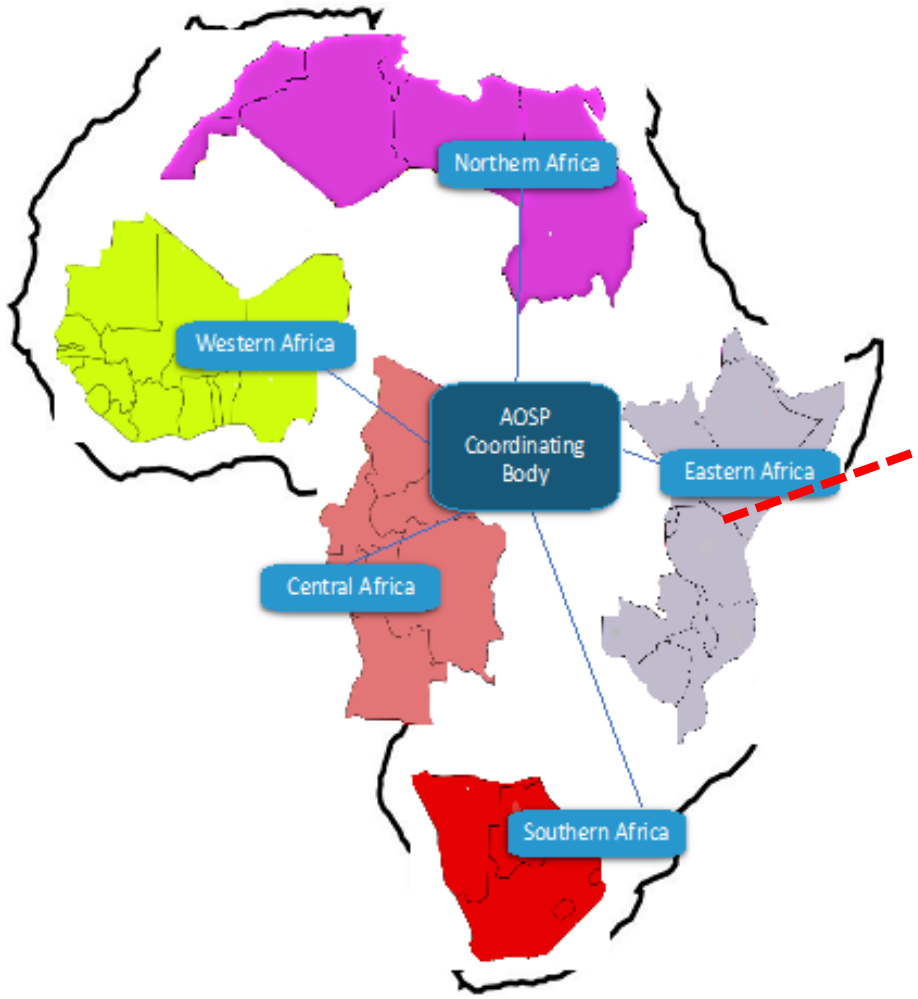


North Africa Node



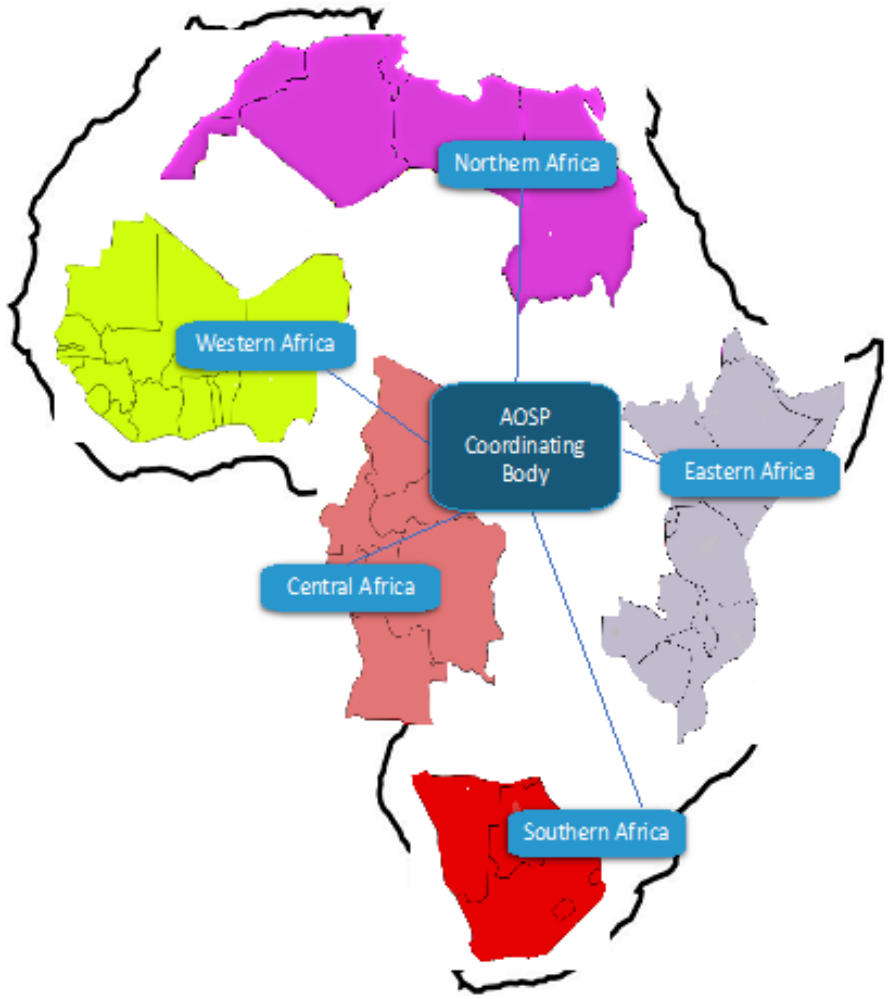
National Authority for Remote Sensing & Space Sciences: EGYPT

East Africa Node



AFRICAN INSTITUTE FOR CAPACITY DEVELOPMENT
AICAD

Node



UbuntuNet Alliance

Our Region

22
Countries in Our Region

16
Member NRENs

14
NRENs Connected

1000+
Institutions Connected

3.48
Million Students & Staff Connected

- Uganda (RENU)
- Botswana (BotsREN)
- DRC (Eb@ale)
- Zambia (ZAMREN)
- South Africa (TENET)
- Sudan (SudREN)
- Ethiopia (EthERNET
- Somalia (SomaliREN)
- Kenya (KENET)
- Rwanda (RwEdNet)
- Burundi (BERNET)
- Tanzania (TERNET)
- Malawi (MAREN)
- Madagascar (iRENALA)
- Mozambique (MoRENet)
- Zimbabwe (ZIMREN)

The Challenges

Language barriers

Low digital visibility of African scholarly output

Underrepresented in Intl. research networks

Restricted access to research funding

The Solution (2018-2023)

Utilising existing digital scholarly infrastructure for research dissemination

Since 2023 affiliation with UbuntuNet Alliance

Establishing AfricArXiv as a locally hosted repository

+ physical ownership of research data by African stakeholders
+ by utilizing open-source tools:

INVENIO

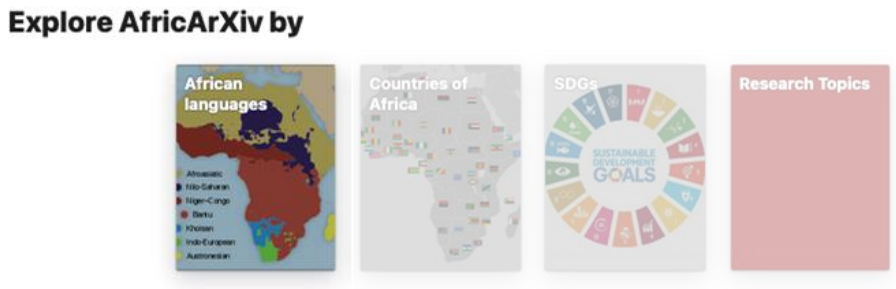
PKP PUBLIC KNOWLEDGE PROJECT

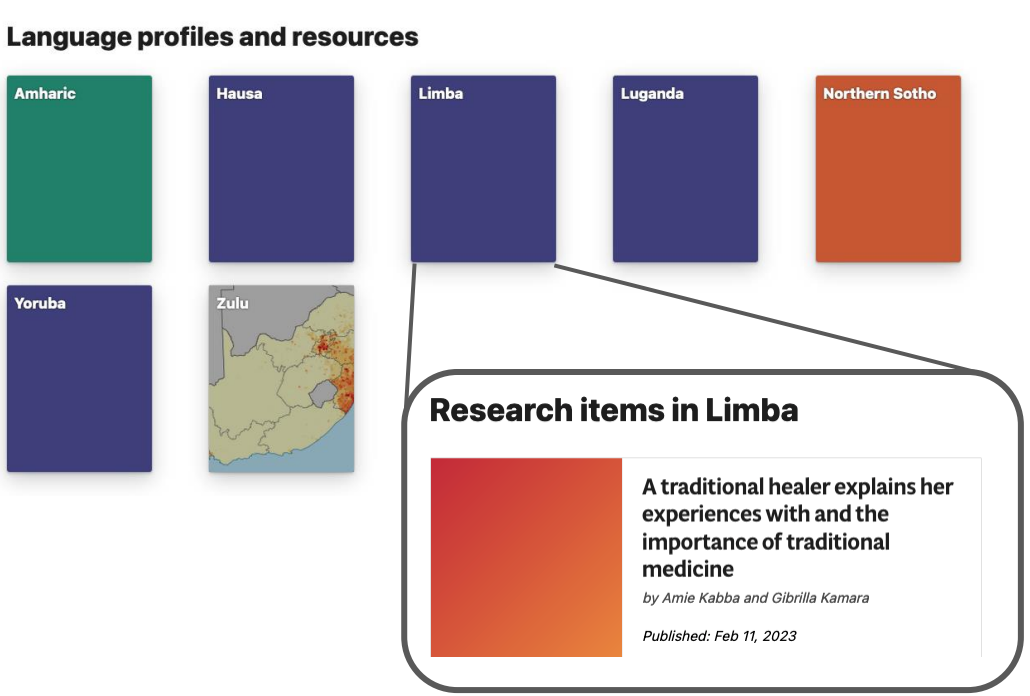
Kotahi

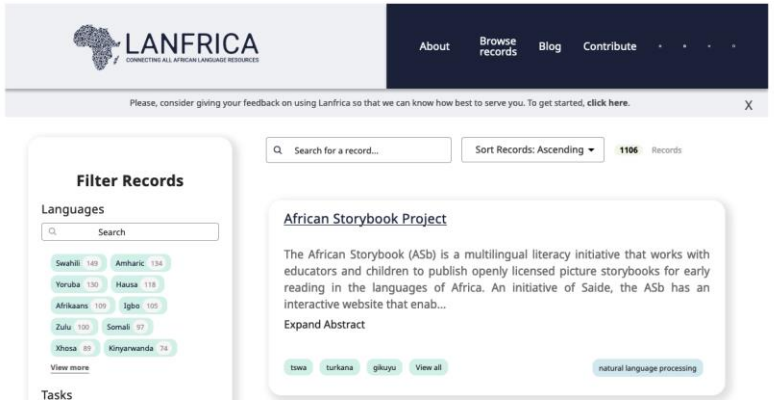
DSPACE

HAL archives-ouvertes.fr

The Dataverse® Project

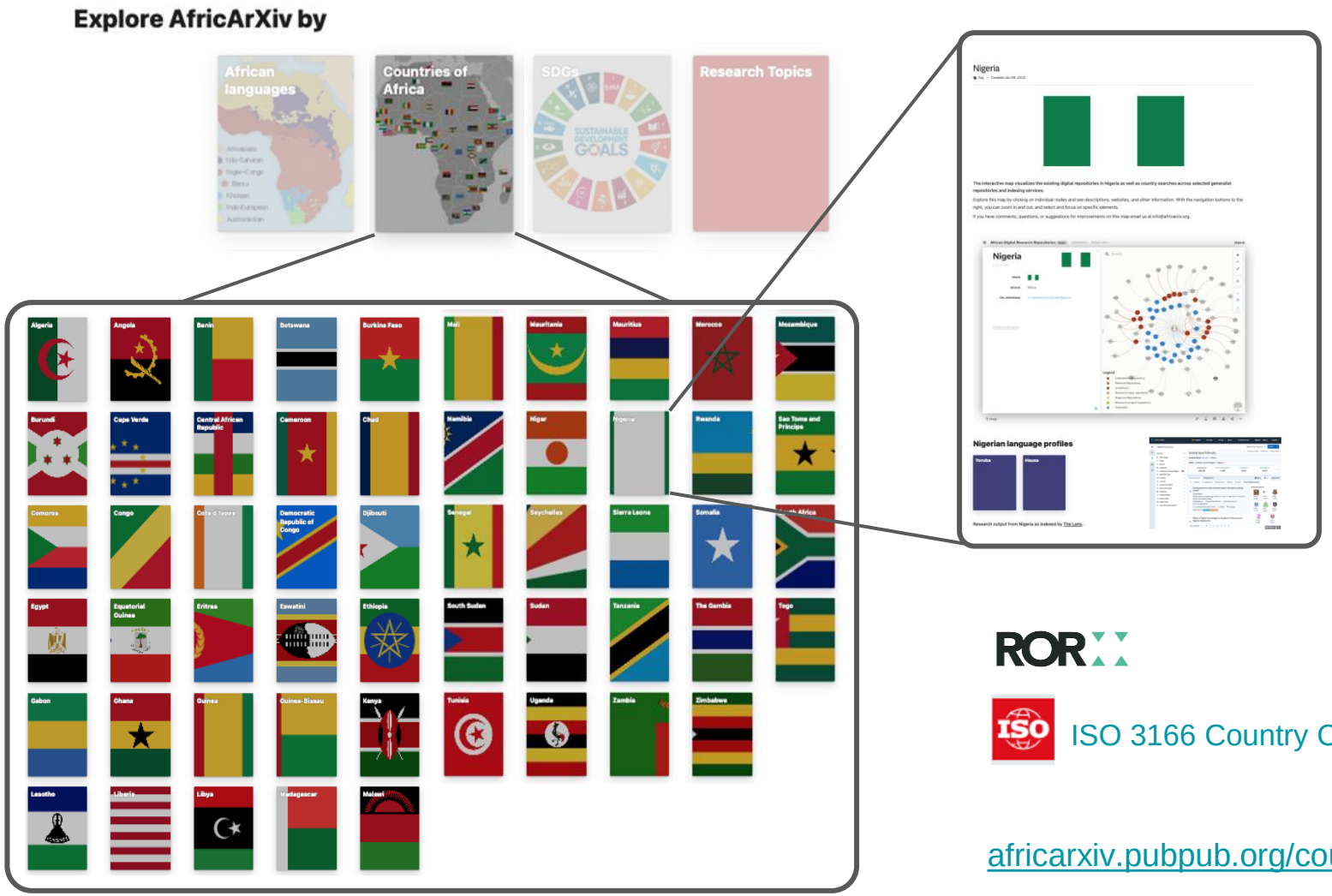






iso-639-language-codes.html

africarxiv.pubpub.org/african-languages



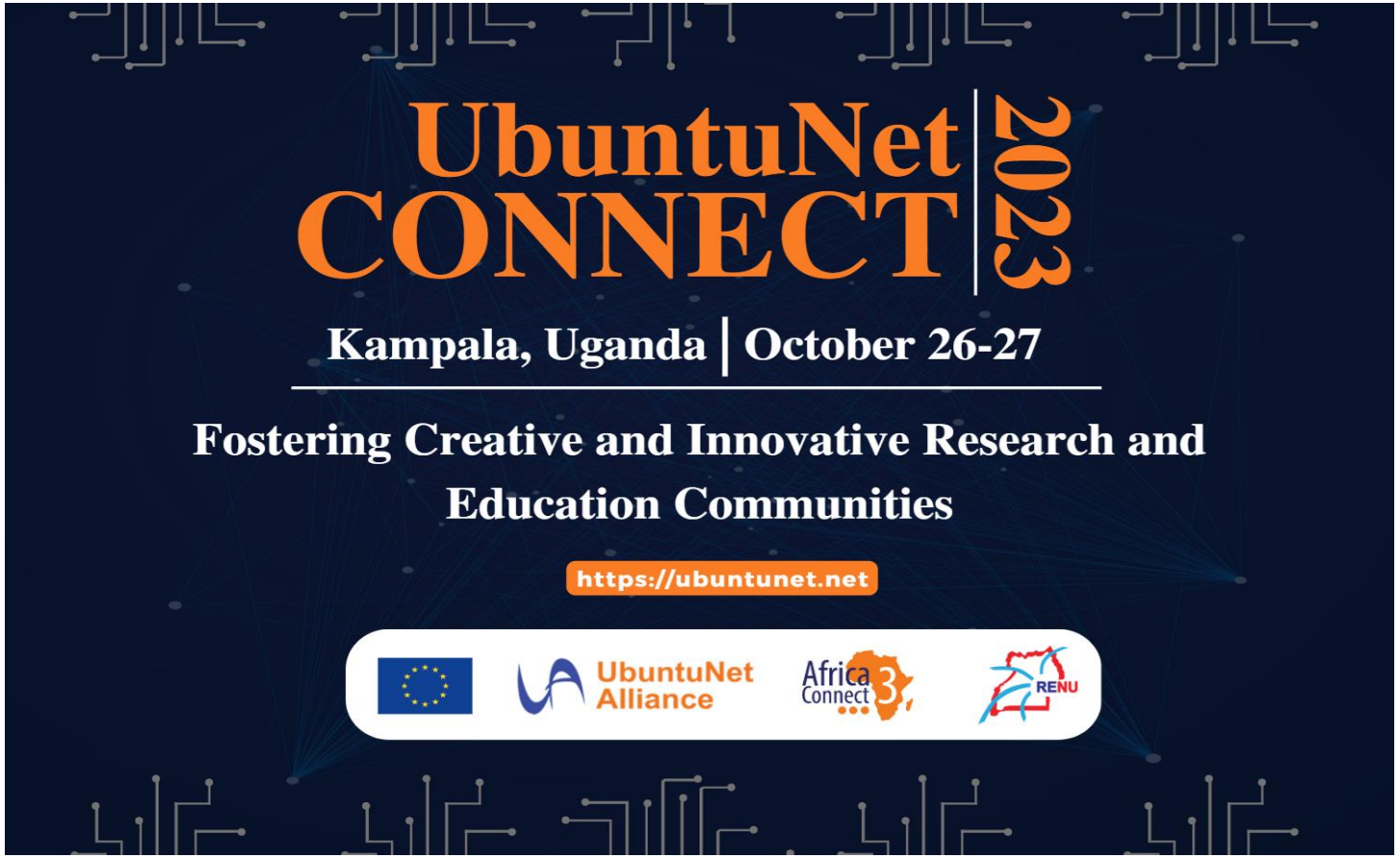
ISO 3166 Country Codes

africarxiv.pubpub.org/countries-of-africa

ASREN
WACREN
Tunisia
Morocco
Algeria
Libya
Egypt
Western Sahara
Mauritania
Mali
Niger
Chad
Sudan
Eritrea
Somalia
Senegal
13
14
Guinea
Burkina Faso
Benin
Nigeria
15
Cote d'Ivoire
Liberia
Ghana
Cameroon
Central African Republic
South Sudan
Ethiopia
12
Congo
Gabon
Uganda
Kenya
19
20
DR Congo
18
Tanzania
Angola
Zambia
21
Mozambique
Zimbabwe
Namibia
Botswana
Madagascar
22
South Africa
23

Launch:

AfricArXiv as a locally hosted repository



Community Development and Outreach ORCID Grant

AfricArXiv

THE AFRICAN OPEN SCIENCE PLATFORM

UbuntuNet Alliance

AfricArXiv – pan-African Open Access portal will establish ORCID-facilitated multi-stakeholder consortia for efficient scholarly knowledge sharing from Africa, utilizing scholarly repository systems, each with a regional and research topic/discipline-specific focus. Also integrate and advocate for the adoption of other relevant persistent identifiers—ROR in particular—for African institutional reputation building, complementing the existing institutional infrastructure.

ORCID

ACTIVITIES

- **Supporting Open Science Policy Development in the Continent**

  - ✓Ivory Cost
  - ✓South Africa
  - ✓Tanzania
  - ✓North Africa

Open Science Dialogues

Regional Open Science Policy Dialogue in Southern Africa: Actionable Next Steps on Implementation for Higher Education Institutes & Stakeholders

25-26 April 2023

Venue: Engineering 4.0 (Geo tag- 012 420 2171

https://maps.app.goo.gl/3QHs3ZnSu3Lz3Akm6?g_st=iw)

Hillcrest Campus,Hatfield

University of Pretoria

Training

SAVE THE DATE
HOST CITY: Gaborone, Botswana
DATE: 23-25 November 2022
UbuntNet CONNECT 2022
THEME:
Redesigning the Digitalized African College and University
The UbuntuNet-Connect 2022 conference theme looks broadly at the issues surrounding the redesign of digitalised colleges and universities in Africa.
23 November 2022 – 1 day Open Science training for Librarians: Open Data Repository.
For more information: https://ubuntunet.net/uc2022/
THE AFRICAN OPEN SCIENCE PLATFORM
UbuntuNet Alliance
science & innovation
Department: Science and Innovation
REPUBLIC OF SOUTH AFRICA
unesco
NRF National Research Foundation

Open Science Activities with SGCI

- SGC and Researcher continental and global visibility National
- Open repository for publications and data
  - ✓ Depositing in repository with PIDs (DOI)
  - ✓ Participation in Data sharing using PIDs (DOI)
  - ✓ Create a SGC output sharing platform (Research data, Publication, resource documents, training, Communities of practice etc)
  - ✓ Training on all OS activities
- Developing Open Science (OA/OD) Policy and Implementation frameworks - Data Management Plan frameworks

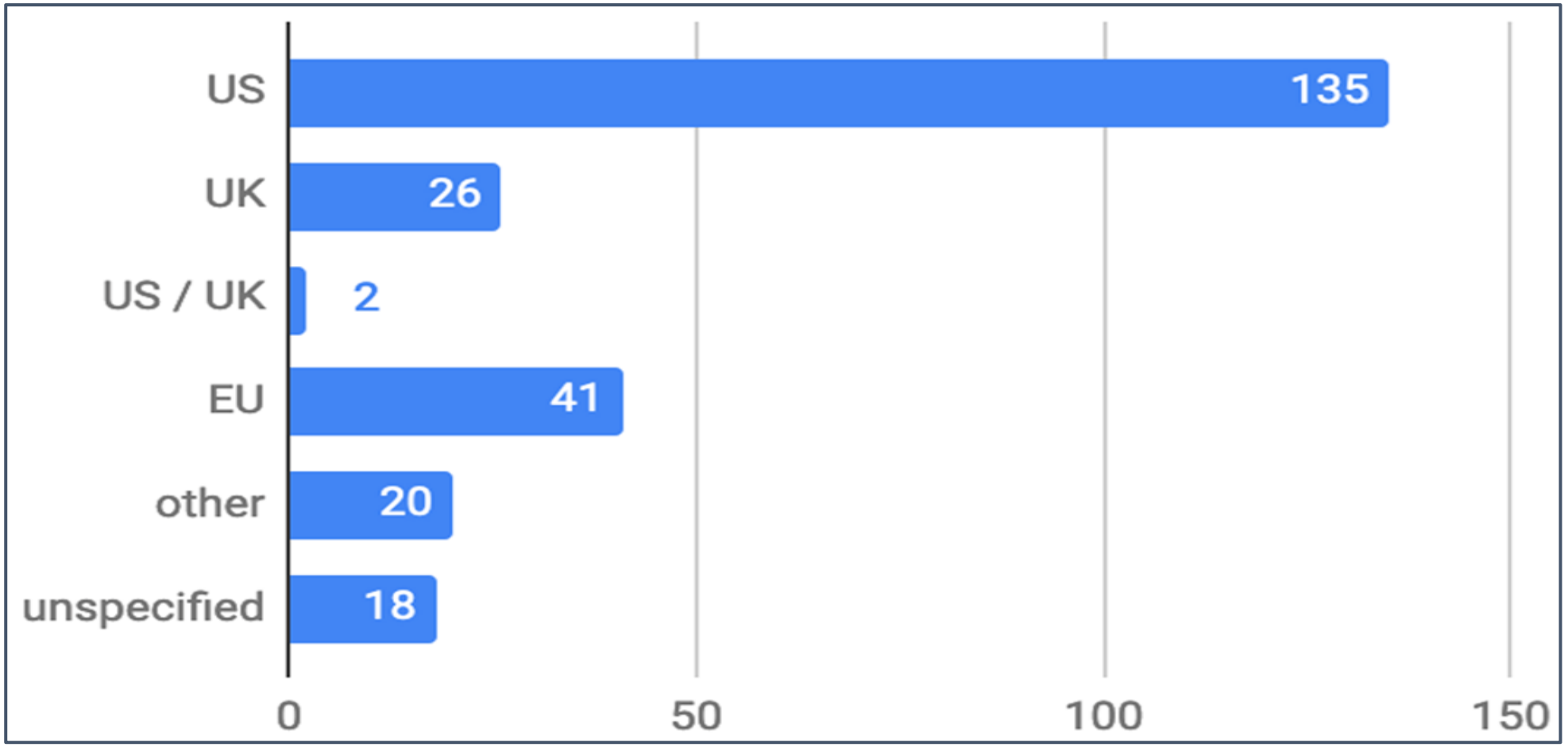
SCIENCE GRANTING COUNCILS INITIATIVE SGCI IOSRS INITIATIVE DES ORGANISMES SUBVENTIONNAIRES DE LA RECHERCHE SCIENTIFIQUE

17 Countries

ACTIVITIES

- **Supporting Open Science Policy Development in the Continent**
  - ✓Ivory Cost
  - ✓South Africa
  - ✓Tanzania
  - ✓EASTCO (Burundi, Ethiopia, Kenya, Rwanda, Tanzania and Uganda)
  - ✓North Africa

Location of Digital Open Science Tools



Shifting the Focus

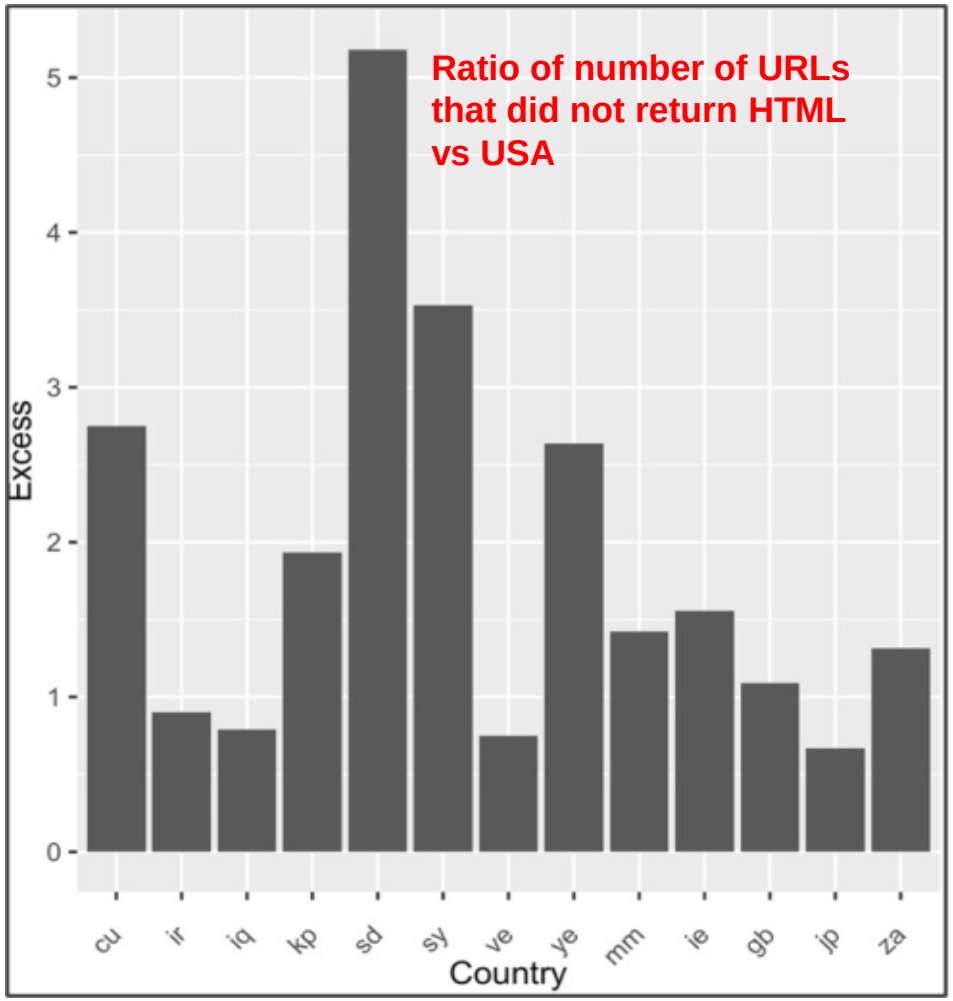
Differing technical systems

Can <u>all users equally</u> engage with the OS landscape when they have an internet connection?

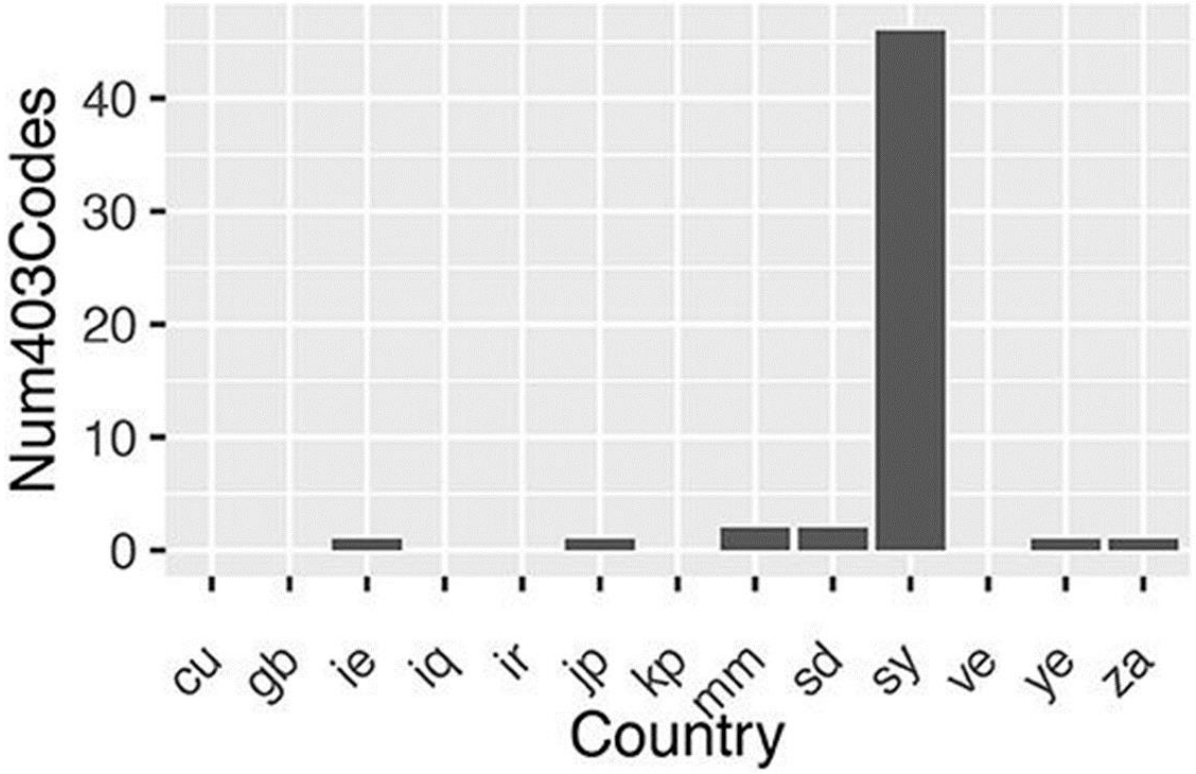
Overall Rank	Country	Average price of 1GB (USD)
155	Malawi	$27.41
154	Benin	$27.22
153	Chad	$23.33
152	Yemen	$15.98
151	Botswana	$13.87

Cost of data and bandwidth speed

Freemium models and membership fees



Number of URLs that returned a 403 HTTP response status code when the same URL returned a 200 HTTP response status code from US.



National Research Foundation

International Science Council
Regional Office for Africa

LET'S WORK TOGETHER FOR AFRICA – AND THE WORLD

ASSAf
ACADEMY OF SCIENCE OF SOUTH AFRICA

THE AFRICAN OPEN SCIENCE PLATFORM

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

SCIENCE GRANTING COUNCILS INITIATIVE SGCI IOSRS INITIATIVE DES ORGANISMES SUBVENTIONNAIRES DE LA RECHERCHE SCIENTIFIQUE

CODATA