Keynote: South African Open Access and Open Data

An Open Science transition driven by University library repositories

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Edinburgh Open Research Conference 2023

Global-South Collaboration to Accelerate Transition to Open Science

Time lines

1999:   South Africa-CODATA (SADA)

1999:   Senegal Dakar, CODATA

2000-2:   CODATA General Assembly

2004-5:   Beijing-South Africa 1st Open Data Workshop

2006:   CODATA GA: Beijing, SADC

2007:   ICSU- CODATA Group on Preservation of and Access to
            Scientific and Technical Data in Developing Countries.

2008:   1st African Digital and Information Curation Conference and
            Workshop (12 – 14 February 2008, Pretoria South Africa)

2015-6:   Open Access Initiatives in Africa

2016:   1st Open Science Forum (South Africa Dec 2016) – AOSP

2017:   African Open Science Platform (2017 Cape Town, SA

2022:   South African Open Science Policy (Draft) – World Science
             Forum, Cape Town, South Africa

1999 South Africa

- In 1999, CODATA was invited to address a SADA (South African Data Archive) management meeting and discuss whether CODATA could make any contribution towards the operation of SADA.

- As a result, the head of SADA at the time was invited to become a member of the CODATA national committee.

SENEGAL: Dakar

- CODATA was taking other initiatives in the area of data conservation, and a workshop was held in Senegal on *'Scientific and technical data handling in exchange for development'.*
  - (At the time, sustainable development was not as high on the international agenda as at present.)

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- A paper on *'Scientific and technical data in Southern Africa – the situation in SADC countries'* was delivered. At the time, there were very few activities in the area of data conservation in SADC countries, with the exception of South Africa.

CODATA General Assembly 2000 - 2002

- Presentation to the CODATA General Assembly of 2000, a workshop on *'Archiving for scientific and technical data'* was held in Pretoria in 2002,

- attended by 70 delegates from the region and international experts, to provide input on technical aspects of archiving.
  - meeting was co-chaired by Bill Anderson (US Academies of Science).

- Topics discussed included scientific, technical, management and policy issues.
  - These topics are still pertinent today, even though the environment is constantly shifting as technology, priorities and governments change.

CODATA General Assembly 2002

- The Task Group on *Preservation of and Access to Scientific and Technical Data in Developing Countries* was created at the CODATA general assembly in 2002, with Bill Anderson (USA Academies) and LIU Chuang (Chinese Academies) as co-chairs.

- Only two African countries were included in the membership of the task group, namely, *Senegal* and *South Africa*. In the other two African CODATA member countries (*Nigeria and Cameroon*), the national committees were not very active and did not take up the offer to become members of the task group at the time.

1st Open Data Workshop: Beijing 2004 - 2005

- The first workshop of the newly appointed Task Group was held in Beijing in June <u>2004</u>;

- 3 delegates from South Africa attended, who familiarised themselves with the workings of the task group to see how to apply the learning in South Africa.

- A follow-up meeting was held in Pretoria in September <u>2005</u> on the topic of *'Strategies for permanent access to scientific and technical information in southern Africa: health and environmental information for sustainable development'.*

Recommendations of the 2005 Pretoria workshop still relevant 21 years later

- The need to influence government officials

- Raising awareness with respect to the value of data.

- Long-term access to data in areas such as agriculture and meteorology.

- Data workshops on data handling.

- A data management academy

- A directory of core data sets

- Outreach activities

- Attention to socio-economic data

CODATA
COMMITTEE ON DATA
INTERNATIONAL
SCIENCE COUNCIL

CODATA General Assembly 2006

- 2006, the CODATA general assembly approved the formation of a new *Task Group on Data for Sustainable Development in SADC countries.*

- 2007, the workshop held jointly with the *Task Group on Preservation of and Access to Scientific and Technical Data in Developing Countries.* The intention was to create something of sustainable value for the area (region).

Activity 1 : 1st organizing workshop 14 – 15 May 2007

- Initial organizing workshop (14 – 15 May 2007, South Africa) held in collaboration with the following bodies:
  - ICSU Regional Office for Africa (ICSU ROA)
  - CODATA TG on Preservation of and Access to Scientific and Technical Data in Developing Countries
  - South African National Committee for CODATA
  - United States National Committee for CODATA
  - National Research Foundation (South Africa)

- TG on Data Sources and this initial meeting are a direct outcome of the Preservation Workshop held in South Africa in 2005

- Report available at:-
http://stardata.nrf.ac.za/Codata/CodataSouthAfrica.html

Activity 1: *cont.*

- *Workshop Objectives:*

- Consider main recommendations from the Sept. 2005 CODATA TG on Strategies for Permanent Access to Scientific Information in Southern Africa,

- Designate appropriate officials in the SADC countries to actively support the TG Data Sources initiatives of regional interest,

- Promote mutual reinforcement with the converging goals of ICSU ROA, the SADC and NEPAD Secretariats in order to leverage resources,

- Establish a work plan for the TG Data Sources for 2007/8.

Activity 2 : TG Data Sources *After Action Review* 14 February 2008

- TG Data Sources 1st group meeting held in conjunction with the *1st African Digital and Information Curation Conference* and Workshop (12 – 14 February 2008, Pretoria South Africa)

- Objective:
  - Prioritize (May 2007) recommendations and determine actions for the period 2007 to 2008
  - Recommendation 1: Priority 1, Develop a Database of Data Resources in Africa

- This recommendation executed in two phases. Phase 1 with timeframes of February 2008 - September 2008 and was an
  - Extension of *South African Data Archives* (SADA) and the *Directory of Data producers in South Africa*, and
  - With an ICSU/CODATA 'wrapper'/ front end

- Design and distribute questionnaire/survey to populate database

Activity 2 : TG Data Sources *After Action Review* Outreach 2008

- The 1st African Digital and Information Curation Conference and Workshop in Pretoria on 12-13 February 2008, the Task Group member activities at the conference:

- Dr Alfonse Dubi presentation: *"Oceanographic Data and Information Initiatives in Africa".*

- Mr Paul Uhlir presentation: *"Information Gulags, Intellectual Straightjackets, and Memory Holes".*

- Dr Daisy Selematsela facilitated a workshop session in the Social Science and Humanities with focus on *"the preservation and sharing of African research data and related documentation".*

- Report available at:- http://stardata.nrf.ac.za/nadicc/programme.html

2008: World Data Center for Biodiversity and Human Health (WDCBHH)

- The intent of this project (as proposed to ICSU) was to develop and implement an innovative approach that would be used to successfully create a functioning new "pilot" World Data Center (51st *in Africa*).

- The specific data center that would be created is the WDC for Biodiversity and Human Health, which will also be the first WDC in all of Africa.

- CODATA General Assembly 2010 (WDCBHH presentation in Cape Town: NRF)   Oct. 2010

World Data Center for Biodiversity and Human Health (WDCBHH)

- Co-proposal submitted to ICSU Grants programme in 2008 by:
  - CODATA TG Data Sources for Sustainable Development in SADC
  - ICSU WDC Panel
- Supported by:
  - USGS (United States Geological Survey)
  - UN-GAID and e-SDDC
  - CODATA TG on Preservation of & access to Scientific & Technical Data in Developing countries (PASTD)

OA Processes in Africa

- 29 November 2012 (Addis Ababa)
  - 1st Africa Global Research Council (GRC) Regional meeting
- Theme: "Integrating National Science Institutions with Regional and Global initiatives: Open Access and Research Integrity".
  - Objective: to obtain inputs to best practices and standards on research integrity and open access for publications in the African region;
  - Outputs to serve as preparation for the annual GRC global meeting of May 2013 (Berlin)
- Co-hosted:
  - TWAS, AU, USA NSF & German Research Foundation

OA activities in Africa – 2015/2016

NASAC (Network of African Science Academies)
- Consultative forum in OA: towards high level interventions for Research & Development in Africa

Botswana
- Consultative forum on OA policy development and training

Zimbabwe (Zimbabwe University Libraries Consortium)
- Workshop for a National mandate on OA & management of Open Research Data

CODESRIA (Council for the Development of Social Science Research in Africa)
- challenges facing the advancement of OA in Africa and the Global South,
- Agreed on basic principles for promoting OA in Africa and the Global South.
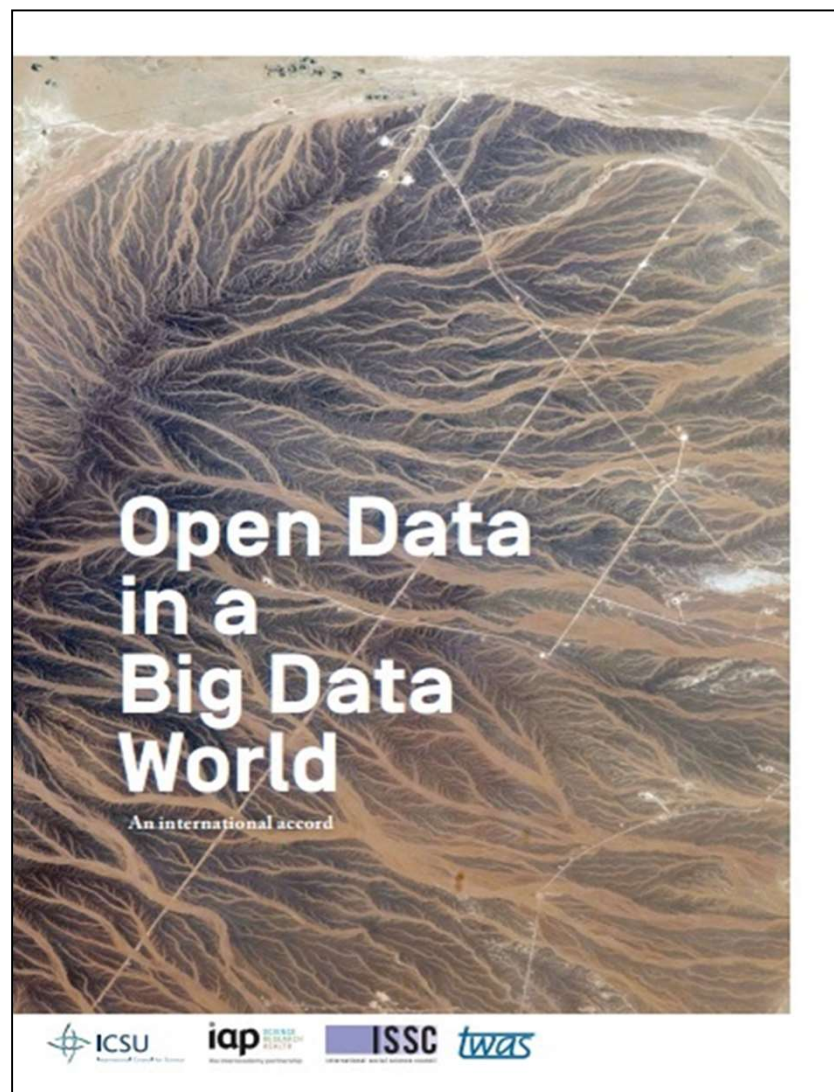
1st Open Science Forum (South Africa Dec 2016)

- Open Science and Open Data
- African Ministers of Science & Technology
- Adoption of *Open Data in a Big World Accord*
- South African Research Infrastructure Roadmap (SARIR) launched by Ministry of Science & Technology (Nov 2016 – Cape Town)
- African Open Science Platform (2017 CT)
  - Ministry of Science & Technology & CODATA
  - NRF/ASSaF implementation

ICSU-IAP-ISSC-TWAS Accord
www.icsu.org/science-international/accord

This document was prepared by an ICSU-IAP-ISSC-TWAS working group of:

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Open Data in a Big Data World

An international accord

ICSU   iap   ISSC   twas

Progress to date

- National Open Science Policy (DSI)
- DIRISA and NICIS
- The African Open Science Platform (AOSP)
- CODATA International Data Policy (24 – 26 October FAIR Convergence Symposium)
  - Data policy must promote cross-discipline and cross-sector integration of data policy in crisis situations through a reliance on cross-cutting frameworks for data generation, data processing, and data sharing: the FAIR Data Principles, data integrity, data stewardship, data ethics and Open Science in the contexts of CODATA's The Beijing Declaration on Research Data, the United Nation's 2030 Agenda for Sustainable Development (including UNDRR's Sendai Convention, WHO's Health Emergency and Disaster Risk Management Framework, UNESCO's Recommendation on Open Science), the OECD's Building Capacity for Evidence-Informed Policy-Making: Lessons from Country Experiences, and the ISC & UNDRR 'Integrated Research on Disaster Risk (IRDR) Programme', and the European Commission's European Research Area Policy Agenda 2020-2024.
  - https://worldscienceforum.org/
    - World Science Forum (6 – 9 December 2022: Cape Town)

SA: Draft National Open Science Policy

In broad terms, Open Science in South Africa shall achieve six inter-related outcomes:

- ❑ Facilitating Open Access to scholarly publications and research outputs, as well as educational resources for teaching, learning and assessing.
- ❑ Ensuring Open Data that facilitates equal opportunity of access to research data to enable reproduction of published results, and re-use of publicly funded data to enhance discovery potential and opportunity.
- ❑ Supporting Open Source by providing access, discoverability and re-use of software code and algorithms used in the processing and analysis of research data.
- ❑ Providing Open Resources through enabling responsible access and use of scientific data, research infrastructure, and computing infrastructure beyond hosting institutions to a wider research community.
- ❑ Facilitating Open Methods that place no restriction on, and encourages, the publication and reuse of methodologies, techniques and protocols (both after, and during the course of, the primary research).
- ❑ Enabling Open Review as a departure from current practice, whereby the peer review process becomes transparent and publicly visible.

Thank you

References

- Proceedings of a CODATA workshop of 14–15 May 2007 (version 5; last modified: 1 October 2007)

- 2018 White Paper on Science, Technology and Innovation
  - www.dst.gov
  - www.gcis.gov.za