Sci-GaIA Open Access Data Repository Kit Concept Note

Towards Open Science for Africa:
The freely available Sci-GaIA Open Access Data Repository Kit

How can an African scientist share his or her exciting research with the rest of the world?
Answer – use an Open Access Data Repository!

The Sci-GaIA project (www.sci-gaia.eu) is widely promoting to African Scientists the benefits of advanced ICT and Open Science. It has published a freely available, complete off-the-shelf Open Access Data Repository (OADR) kit for Africa (https://oar.sci-gaia.eu/record/20). This can be used by African bodies such as Universities and Research Institutes to promote their work openly through online open access. Significantly, National Research and Education Networks (NRENs) have a major role in supporting OADRs in Africa by leading national policies on OADRs, training to help set up institutional OADRs and potentially hosting OADRs on behalf of various institutes. Want to see an example? See Sci-GaIA’s OADR at https://oar.sci-gaia.eu/.

Why are Open Access Data Repositories important to African Scientists, Universities, Research Institutes and, ultimately, African Science?
Academics often produce a wide variety of “grey literature” that they wish to make openly accessible, a major foundation of Open Science. This includes unpublished material such as technical reports, data, presentations, lecture notes, software, etc. How can they do this? Institutional Open Access Document & data Repositories (OADR) can make this possible. An OADR is a web-based system that can be hosted by an institution (e.g. a University, Research Institute, etc.) that allows users to upload their grey literature for worldwide dissemination. OADRs are widely used across the world. Quality can be overseen by the hosting institution’s administration. Importantly, a registered user can obtain a document object identifier (DOI) to make their document uniquely identifiable. This can be linked to a research registry service such as ORCID that brings together a complete collection of a scientist’s work in one conveniently accessible place. These services are extremely important in raising the international profile of a scientist, their university, their country and, ultimately, African research worldwide.

Furthermore, OADRs can be connected to Science Gateways to let researchers and even citizen scientists reproduce and reuse scientific data on distributed Grid and/or Cloud-based infrastructures. Some examples are provided at http://oar.sci-gaia.eu/record/77 and http://sgw.africa-grid.org/alice.

Why is this important for African NRENs?
An NREN is ideally placed to lead the development of OADRs in their countries as a key network service for science. NRENs can engage in developing national OADR policy, disseminate the importance of OADRs for African science, train universities and research institutes in developing their own OADRs and potentially host regional OADRs. The critical point is that NRENs can provide key leadership in raising the international profile of their nation’s scientists and make a major contribution to attracting research funding and promoting high quality international research and collaboration.

What can Sci-GaIA do for African Scientists and NRENs?
The Sci-GaIA Consortium has published a freely available, complete off-the-shelf Open Access Data Repository (OADR) kit for Africa (https://oar.sci-gaia.eu/record/20). This has a fully configurable installation as well as instructions and guidelines on how to install and use an OADR. These can be immediately used by any University, Research Institute or NREN.

Sci-GaIA is deploying two strategic demonstrators in Tanzania (with TERNET) (http://access.ternet.or.tz/) and DR Congo (with Eb@le) (LINK). Sci-GaIA is working with the

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1 https://en.wikipedia.org/wiki/Open_science
2 https://en.wikipedia.org/wiki/Grey_literature
3 https://www.doi.org/
4 http://orcid.org/
5 See, for example, Dr Simon J E Taylor (Sci-GaIA Coordinator) at http://orcid.org/0000-0001-8252-0189 and Prof. Roberto Barbera (Sci-GaIA Technical Coordinator) at http://orcid.org/0000-0001-5971-6415
UbuntuNet Alliance and WACREN to disseminate the benefits of OADRs for African Scientists. More are soon to be added.

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