OER Africa's Potential Domain Areas and Partners

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OER Africa

Building African education capacity through openness

OER Africa's Potential Domain Areas and Partners

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Author: Peter Bateman

Reviewers: Neil Butcher and Catherine N. Ngugi

Managing Editor: Catherine N. Ngugi

Copy Editor: Vaun Cornell

Cover photograph: Melissa Visser (Designs4development)

Design and layout: Designs4development, www.d4d.co.za

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P O Box 66093 – 00800

Nairobi, Kenya

Copies of this research are available for downloading at: http://www.oerafrica.org

***Saide* – the South African Institute for Distance Education**

PO Box 31822, Braamfontein, 2017

Johannesburg, South South Africa

For more information about SAIDE please see http://www.saide.org.za

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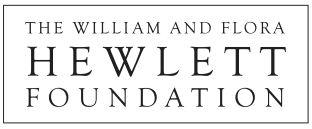

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OER Africa's Potential Domain Areas and Partners

Concept Paper Prepared by OER Africa

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Introduction

One of the key activities of OER Africa is to identify the domain areas or disciplines in which it might be able to make a definitive contribution in terms of the development of Open Educational Resources (OER) that target the needs of the Higher Education (HE) Sector in Sub-Saharan Africa. During the OER Africa Advisory Group (AG) meeting held in April 2008, participants identified several areas of need meriting further investigation by OER Africa. This research note looks more closely at those areas in order to ascertain those in which OER Africa may choose to concentrate its efforts.

This analysis aims to better inform this important aspect of OER Africa's work. With this in mind, this paper identifies the areas (domains) that OER Africa might initially target, outlines the context and criteria under which they might be considered for inclusion, and makes recommendations regarding how OER Africa might proceed to incorporate them into its activities.

The OER Africa Action Plan outlines two main activities that will be taken into consideration for each of the targeted domain areas.[1] These are

a. To establish and support several online Communities of Practice (CoPs) that would be moderated by a member of the community who, most likely, would be identified by OER Africa and invited to undertake this task;
b. To facilitate the ability of CoP members to identify and compile sets of quality OER for each area targeted and to provide them with the tools they need to create their own resources for upload onto the OER Africa portal.

1 There are a variety of other activities being undertaken by OER Africa. The activities cited here are the ones linked to supporting specifically targeted areas or subject disciplines.

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Some Assumptions and Risks

Before proceeding, there is a need to identify a number of assumptions that have been made in compiling this paper, along with the inherent risks associated with each.

Stakeholder Diversity

The AG suggested that OER Africa consider the following when deciding on whom to work with:

a. Higher Education Institutions (HEIs) that have demonstrated a commitment to using Open and Distance Learning (ODL) methodologies (either as ODL institutions or institutions with an ODL department);
b. HEIs that are part of an existing network that focuses on one or more of the subject domain areas identified as being in high demand;
c. HEIs that have the infrastructural and human resource capacity to participate effectively in the CoPs that will be formed.

Subsequent discussions among OER Africa staff initially questioned the desirability of linking OER Africa's partnership activity so strongly with ODL programmes and therefore the type of HEIs targeted in point (a) above. The argument was that those involved in campus-based (face-to-face) programmes have as much to gain from participating in OER development and use as those involved in ODL programmes. Furthermore, the assumed linkage between ODL and OER was not necessarily beneficial to either since it may have suggested to some that materials development (be it OER or not) equated to distance education delivery in its entirety which, as earlier discussions surrounding the Cape Town Declaration attest,[2] is certainly not the case.

One argument for concentrating on HEIs with a commitment to ODL was that it was considered that these would have a greater awareness and perhaps skill level with regard to materials development. This assumption is disputed by some OER Africa staff who point to examples of the low quality of ODL programmes in African ODL institutions. A counter assumption could be made that ODL institutions are at least more aware of the pedagogical issues than their campus-based colleagues, many of whom, as subject specialists in their own discipline, may have little or no training in pedagogically effective materials development and delivery.

There are, therefore, both benefits and risks associated with involving either group in isolation. In the end, OER Africa has decided to include a mix of both. In that way, maximum coverage for both the academic content and the materials development processes associated with quality OER development stand the best chance of coming to fruition within the various CoPs. Campus-based academics may be able to bring to the CoP a more deeply grounded knowledge of the subject matter and issues pertaining to particular subject areas than their ODL focused colleagues. Conversely, and notwithstanding the aforementioned arguments to the contrary, those institutions with an ODL focus might be able to offer their knowledge and expertise in curriculum design and materials development where this is lacking in their discipline-focussed, campus-based colleagues.

In researching the various domain areas that were proposed for inclusion by the AG, it becomes evident that these can be classified into two sets:

a. Those areas that might form part of a formal African Higher Education programme as offered by a university or other HE institution; and
b. Those that might be considered as areas of need that are undertaken primarily outside the African HE sector and therefore may not necessarily be part of a formally accredited programme leading to a tertiary-level award.[3]

2 These focussed on the view that Open Education is not the same as Open Educational Resources.

3 Not all networks dealing with potential domain areas emanate from HEIs – FARA, TTISSA, ANAFE are examples of these (see below).

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This is not to say that the latter set do not sometimes exist as African HE programmes or research areas within an African HEI, but rather that the propensity of stakeholder involvement (particularly when it comes to established networks or collaborative partnerships) exists outside the African HE sector. This may include non-African HEIs and other organisations running programmes or projects in Africa that cover the targeted areas of interest.

Previous experience in establishing collaborative networks among HEIs in Sub-Saharan Africa highlights another key issue worth mentioning here. Targeting a single African university to take the lead in collaborative materials development, particularly when this involves OER, can be problematic. With the uncertainty that exists around issues such as the intellectual property rights IPR, academic advancement via publications, quality assurance etc, bestowing a particular role or responsibility on a single HEI before these issues are clearly understood is less likely to result in the CoP gaining traction. Rather, a CoP that is seen to be advantageous for all involved would be preferable. With this in mind, none of the collaborative partnerships suggested below emanate from a single Sub-Saharan African university. In the future, this may well change as HEI stakeholders in Sub-Saharan Africa come to realise the benefits of governing their own CoPs and once they have established clear parameters within which to operate.

OER Africa will continue to decide to what extent it wishes to engage with stakeholders outside the targeted African HE sector. One possibility is to identify those organisations whose work overlaps significantly with that being done in the African HE sector and to try to draw them together within a particular CoP to share their knowledge and resources. Another approach is to concentrate only on areas for which OER Africa can establish a clear link with existing or potential African HEI programmes and to establish CoPs that would therefore consist primarily of participants from African HEIs.

Making the decision about whom to include in OER Africa's activities has been complex. Engaging solely with African HEIs provides a focus and an institutional framework within which OER Africa can operate. However, the risk is that not including other (non-HEI) stakeholders might result in excluding some of the valuable work (and materials development) being undertaken outside the African HE sector. A possible way around this is for OER Africa to initiate the CoPs via HEI stakeholder involvement, and once established, to allow the community to decide on who they wish to involve as the CoP develops. The advantages of adopting this approach would be: a) that OER Africa CoPs remain primarily identified with Africa (and more specifically African HEIs); b) that existing non-HEI initiatives, be they in Africa or emanating from elsewhere, have an opportunity to share their knowledge and expertise as well as learning from the knowledge generated by the Afro-centric CoPs; and c) if there should be any apprehension about a single African university or HEI 'taking over' the community can decide to bring in outside expertise to moderate the CoP.

Partnering with OER Africa

Another key assumption made by OER Africa as a result of the AG meeting is that it will be able to garner the participation of HEIs that are 'part of an existing network that focuses on one or more of the subject domain areas identified as being in high demand.[4] Following a desk-top scan of the Internet, it is evident that almost all[5] significant networks in Sub-Saharan Africa with a focus on particular subject domains have at least a web presence, with several also having mechanisms for communicating and sharing resources. Further, they often involve a variety of stakeholders,[6] of which African HEIs may only be one 'type' of member,[7] and therefore these networks may not necessarily focus on academic programme development but rather on the discipline itself.

The challenge will be to identify what OER Africa can add to these existing networks that would inspire them to form a partnership. Part of this process may be to convince the members of some of the various networks that they should participate

4 From the deliberations of the first OER Africa Advisory Group (AG) Meeting of February, 2008.

5 Those initiatives without a web presence are unlikely to show up in a scan undertaken via the Internet.

6 These might include government agencies, NGOs, IGOs and/or non-African universities.

7 Some domain areas do not appear to have any significant HEI involvement.

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in more 'open' processes focusing on educational materials development and use. Another challenge may be for OER Africa to convince the members of these networks that their existing networking structure (particularly their online environment) is somehow unsuitable to undertake collaborative materials development effectively and they could make use of the OER Africa portal – at least for certain collaborative activities.

For this to happen OER Africa would have to offer these communities a platform and tools that targets more specific educational resource development – that focuses on the requirements of HEI programmes rather than more generic treatment of specific disciplines. This would require OER Africa to persuade the existing discipline-based networks (examples of these are provided later in this document) that their work should be refocused around teaching and learning rather than the research or information sharing foci that currently predominate. If they perceive a gap in their existing networking structure this may be possible. The risk here is that some existing networks may prefer to add the types of networking activities and the web-based tools and support being offered by OER Africa to their own existing web-based network functionality and thereby keep 'ownership' of these within their own, separate web communities. In establishing its partnerships, OER Africa will need to continually evaluate the value addition it offers to existing networks.

One way of achieving the above might be for OER Africa to highlight that there is no need for these existing networks to 'reinvent the wheel' in developing their own sets of online tools aimed at supporting collaborative OER development. Ideally if OER Africa could provide additional value through, for example, some generic OER materials development guides and/or CoP moderation manuals, training opportunities for various communities and the like, it may help to create the perception that, when it comes to OER development and collaboration activities, OER Africa is *the* best partner in Sub-Saharan Africa. OER Africa may, therefore decide to become a sort of 'clearing house' for existing initiatives that are prepared to work collaboratively.

Whatever the case, OER Africa will need to handle its engagement with existing networks with care so as not to be perceived as being an aggressive organisation seeking to overtake these initiatives. It should rather incorporate into its partnership strategy an approach that will result in perception of it as a benevolent service provider able to add value to existing network membership.

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Areas to be targeted by OER Africa

The notion of the 'low hanging fruit' has surfaced several times during the discussion about selecting areas for OER Africa to target. This notion raises some questions that require further discussion. What exactly, constitutes a 'low hanging fruit'? Is it a high demand area? Is it an area that is accompanied by sources of funding? Is it an area already targeted by a highly motivated and vibrant existing community? Is it an area that is strongly supported by a community that is ICT literate and 'connected'? Is it one with an experienced materials development community? Or a community that is familiar with the tools available to assist them to work collaboratively online? Is it an area that for which an effective moderator or champion can be identified in order to spearhead the CoP's activities? Is it an area that will yield quick wins that can be publicised for marketing and advocacy purposes? And finally a question that is perhaps of more strategic interest – will OER Africa wait until the subject domains 'ripen' before engaging with them or will areas of pressing need be supported in order to help them ripen?[8]

The AG made several suggestions as to which subject domains to target initially. In doing so, the criteria for selection were varied and perhaps not altogether congruous. This raises a further set of questions. For example, just because a set of resources already exists does this mean that the domain involved represents an area of high demand9? Similarly, where demand was a motivating factor in the selection, from where did this demand emanate? Was it the main target institutions (i.e. the HEIs)? Was it in accordance with a wider development agenda such as the Millennium Development Goals (MDGs)? Was it from a non-African HEI or other external institution seeking to implement a project in Africa?

OER Africa has discussed these issues and developed some initial criteria, which were used to determine what subject domains should be targeted first. However, this will be an ongoing process since uncertainly regarding these criteria may undermine OER Africa's level of engagement within a particular domain area and, regardless of how alluring it may be, an ill-informed involvement may result in failure. Mindful of this risk, the next section outlines the suggestions for subject domain areas that have been raised, both during the AG meeting and subsequent to it, along with suggestions for specific, existing networks or projects that OER Africa may wish to pursue further.[10]

Teacher Education

The Context

The MDGs clearly set universal basic education as a major target. National Ministries of Education in Sub-Saharan Africa along with international donor organisations, non-governmental organisations (NGOs) and international governmental organisations (IGOs) are working, albeit with varying degrees of success, to meet the 2015 target date. The Report of the Commission for Africa (2005) highlighted the need to invest in teacher training when it indicated that 'the push to achieve Education For All (EFA) will certainly never succeed without substantial investment in teacher recruitment, training, retention and professional development.'[11] HEIs are the primary teacher training institutions in Sub-Saharan Africa and as such need to expand their activities to meet the demand.

8 For example, there is little online community engagement about post-conflict societies emanating from Africa. This may be due primarily to the lack of infrastructure such conflict has brought about in the countries where it occurred but this in no way detracts from the pressing challenges these societies face.

9 For example, while resources exist, there appears to be little demand for disaster management courses from the HE sector in Sub-Saharan Africa; that is not to say that there should not be HEI engagement with disaster management, only that it has not appeared high on the list of commonly discussed subject areas.

10 Almost all of these will be familiar to those involved with OER Africa. The purpose here is to document the most promising initiatives in order to assist with the selection process.

11 http://www.commissionforafrica.org/english/report/introduction.html, p. 186.

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Possible OER Africa Partner(s)

Teacher Education in Sub-Saharan Africa (TESSA) Programme

A key programme supporting teacher education on the continent is the 'Teacher Education in Sub-Saharan Africa (TESSA) Programme'.[12] TESSA has four stated aims:

i) To create a bank of 'open content' multimedia resources in online and traditional text formats that will support school based education and training for teachers working in the primary education sector;

ii) To develop 'open content' support resources for teacher educators and trainers who will be planning, implementing and evaluating the use of the resources developed in (1) above;

iii) To effectively extend and widen the take-up and use of the TESSA resources and ideas across Sub-Saharan Africa; and

iv) To implement research activities that will promote the improvement of teacher education generally, in particular school based teacher education in Sub-Saharan Africa.

These aims, and the collaborative approach TESSA adopts with African HEIs, represent an opportunity for OER Africa. There has been some criticism directed at the TESSA programme for its inherent paternalism and so a key concern of some (including some of the TESSA team itself) has been to find an African 'home' for TESSA. OER Africa is well placed to become this home. However, if OER Africa were to take it on, it would require additional human resource and financial support to administer it. The project is now quite well established, it is in area of high demand, it has a network of ICT-savvy champions, and potentially has an ongoing source of funding for its next phase.[13] It is a large project that continues to grow and is generally perceived to be having a positive impact in the teacher education and training domain.

Other Teacher Education Projects

There are three other initiatives with which OER Africa may seek to work in the teacher education domain area. Two of these are managed outside Africa by UNESCO. These are UNESCO's TTISSA project,[14] which is concerned mainly with the restructuring of national teacher policies and teacher education in Sub-Saharan Africa, and the ADEA Working Group on the Teaching Profession (WGTP), which is coordinated by the Commonwealth Secretariat – Education Section[15] and is aimed at 'the professional development of the teaching force, reinforcing teacher support delivery mechanisms, and encouraging the development of new policies, strategies and practices aimed at improving the quality of the conditions under which teachers serve'.[16]

The third initiative is the African Virtual University's (AVU) Teacher Education Project,[17] which targets secondary level teachers. It may be worth revisiting the possible synergies between the AVU/AfDB project (African Virtual University / African Development Bank) and the TESSA project. The connections between the two are fairly obvious; for example, the need the AVU/AfDB project has for a portal that would facilitate the development, organisation, dissemination and use of the teacher education resources being produced such as the one developed by the TESSA programme. OER Africa can perhaps learn from, and eventually ameliorate, the lack of synergy between these two projects. The analysis shows that as the AVU/AfDB Project searched for a curriculum development framework that used a system of templates, the TESSA programme had available just such a framework along with clear guidelines for authors on how to use it. These could have been adapted fairly easily to meet the needs of the AVU/AfDB project. Since there was a budget line item included in the AfDB project for the development of both these items, the team started work on them from scratch.

12 www.tessaafrica.org.

13 The Hewlett Foundation is currently in discussions with TESSA regarding future funding for the programme. There are a number of issues to be resolved but key among these is to relocate the programme within an African organisation.

14 http://www.unesco.org/education/TTISSA/.

15 http://www.adeanet.org/workgroups/en_wgtp.html

16 http://www.adeanet.org/adeaPortal/adea/workgroups/en_wgtp.html , under the heading "What are the objectives of the Working Group?"

17 www.avu.org

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Currently, there is a sense within OER Africa that the teacher education domain area may be over-subscribed and therefore it may be a priority area at this time. For its part, OER Africa might eventually be able to provide both the above services to the AVU/AfDB project as part of a wide-reaching teacher education CoP that builds on existing initiatives, including the one initiated for the ACE Maths programme at SAIDE that now uses the OER Africa portal.

Agriculture and Food Security

The Context

'Global food prices have skyrocketed in the past year, sparking riots in 2008 in cities from Egypt to Haiti. Rising prices pose a particular threat in sub-Saharan Africa, where conflicts and drought exacerbate the effects of high prices. Though sub-Saharan Africa has the potential to become an agriculture powerhouse, crop yields for much of the region are a fraction of those in the rest of the world. Agronomists say the continent needs to drastically increase its agriculture productivity, and recommend a range of options – from high-yield seeds to fertilizer to improved infrastructure – to spur an agricultural revolution in Africa. The region's economic development may depend on such a revolution, experts say, but it will require strong support from individual African governments'.[18]

Possible OER Africa Partner(s)

A scan of the Internet reveals that there are dozens of agriculture-related projects throughout Sub-Saharan Africa, ranging from very highly targeted initiatives with localized stakeholders to very large projects with regional scope. There are fewer projects that are linked to the HE sector and those that are appear mainly directed at post-graduate study and research programmes. The materials available on websites in this domain area tend to be dominated by information related to these programmes as well as some policy-related materials. Only one of the initiatives covered in the desk-top survey had a forum where users could participate collaboratively online.[19]

There are three agriculture-related initiatives that OER Africa may wish to consider.

African Network for Agriculture, Agroforestry and Natural Resources Education (ANAFE)

ANAFE[20] is a network of 117 educational institutions in Africa whose objective is to strengthen the teaching of multi-disciplinary approaches to land management. Administratively, the network is attached to the International Centre for Research in Agroforestry (ICRAF) based in Nairobi, and as such is part of a global agricultural network. ANAFE collaborates with ICRAF's regional programmes to link research with education and training. It may be worth noting that in 2005 ICRAF approached the AVU about the possibility of sharing its resources (as OER) among the AVU partner institutions. Regrettably that did not eventuate but there may be possible synergies that OER Africa could promote between the resource-light Regional Universities Forum for Capacity Building in Agriculture network (RUFORUM) (see below) and the resource-abundant ANAFE.

ANAFE's reach is very wide. It has structured this into what it calls RAFTs or Regional Agricultural Forum and Training. ANAFE has established four RAFTs:

- Eastern and Central Africa (ECA-RAFT);
- Southern Africa (SA-RAFT);
- Sahelian countries (Sahel-RAFT); and
- Africa Humid Tropics (AHT-RAFT).

The responsibilities of RAFTs include:

- Interpreting the policies on ANAFE for the region;
- Monitoring agricultural capacity in the region, and developing and implementing responsive strategies, plans and activities;
- Developing and implementing collaborative education and training activities among members of ANAFE;

18 http://www.cfr.org/publication/16352/.

19 A closer look at the forum indicated that it was not used well and that it seems to have been invaded by spam from Internet porn sites. See http://www.aaae-africa.org/cmaaeforum/toc.htm.

20 http://www.anafeafrica.org/index.php.

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- Leading initiatives to develop, review and test teaching materials, methods and tools;
- Collating, organising and making accessible, training and educational materials with agro-ecozonal focus;
- Sensitising educational systems and organising regional forums such as colloquia geared at strengthening agricultural and natural resources education;
- Coordinating link efforts and activities among education, research and extension institutions and facilitating links with partners outside the region;
- Catalysing the evolution of pools of expertise to address various aspects of agricultural education and training, and to develop and share databases on the same.

ANAFE also supports the formation of national chapters known as NAFTs – National Agricultural Forum and Training.

From previous interactions with ICRAF and based on ANAFE's solid web presence, OER Africa would do well to place the focus of its efforts on formulating an agriculture CoP with ANAFE. Somewhat surprisingly, given the networking and collaboration activities in which ANAFE is involved, there does not appear to be an online forum or any other interactive component to ANAFE's website. It is quite possible that they would value OER Africa's web portal functionality in this regard. Likewise, several of the areas of the site relating to the development of education and training resources are currently empty. This might suggest that ANAFE would be interested in exploring a collaborative materials development process via OER Africa's online portal.

ANAFE's IPR framework is similar to other such 'network coordination' organisations. A pertinent aspect of this, as recorded on their website, is that 'individuals may freely download, copy and print materials for personal, educational or other non-commercial purposes without prior permission from the Centre. Acknowledgement of the Centre's materials is requested.' This would seem to be not too far removed from the levels of openness that characterise OER initiatives although some negotiation on the IPR issues associated with the re-authoring of the materials may be required. A final point, among ANAFE's listed partners is RUFORUM (see below) which is the partnership brought to the attention of OER Africa during the AG meeting.

Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)

The second agriculture-related initiative worthy of further investigation by OER Africa is the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM),[21] which is an association of 12 universities that run programmes in agriculture and related sciences in East and Southern Africa. The Secretariat for RUFORUM is based in Kampala, Uganda. Its current membership includes:

- Kenya – Egerton University, Jomo Kenyatta University of Agriculture and Technology, Kenyatta University, Moi University, University of Nairobi;
- Malawi – University of Malawi;
- Mozambique – Eduardo Mondlane University;
- Tanzania –Sokoine University of Agriculture;
- Uganda – Makerere University;
- Zambia – University of Zambia; and
- Zimbabwe – Africa University and the University of Zimbabwe.

RUFORUM's website explains that the member universities will work together to achieve the following strategic objectives:

- RUFORUM will be an INNOVATOR that catalyses change within universities in terms of research training, outreach and related management aspects.
- RUFORUM will be a CATALYST and COORDINATOR for partnerships and collaboration within the countries and across the region.
- RUFORUM will be an INFORMATION and KNOWLEDGE BROKER,
- RUFORUM will be a REPRESENTOR and ADVOCATE of universities and their stakeholders.

While it is difficult to know what happens behind the scenes, the RUFORUM website gives no indica-

21 http://www.ruforum.org/aboutus.html.

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tion that there is an established online forum to assist in promoting and supporting the types of collaboration referred to above. Further, the current information supplied by the website seems to deal mainly with the operational documentation for the association. The only other significant resource on the website appears to be an online version of the ILRI-ICRAF Research Methods Group's 'Research Methods CD ROM'. It seems apparent that RUFORUM is an 'organisation in process' that has not yet operationalised its strategic objectives.

Having said this, RUFORUM has recently closed its application process for quite a number of new posts including a 'Programme Officer – Information and Communication' whose role (among others) will be to:

- Design, develop and operationalise e-learning framework for the RUFORUM Network;
- Develop and operationalise e-resources at the RUFORUM Secretariat;
- Support Network partners to operationalise their e-learning frameworks; and
- Guide RUFORUM corporate publications.

This suggests that RUFORUM is expanding and will be looking at ways and means of operationalising its strategic objectives. The OER Africa portal may offer them a significant value addition in this regard.

A final note regarding the IPR framework[22] for RUFORUM: two key points to note from the framework are that 'in general, all RUFORUM supported Research for Development as supported in implementation agreements shall be considered as public goods',[23] and elsewhere in the IPR document it reads, 'These policies are designed to maximize the likelihood of widespread adoption and impact of RUFORUM supported interventions … by the Universities and their partners in general'.[24] Generally speaking, this is favourable to the notion of 'openness' as promulgated by the OER movement, although it would benefit greatly if it were to re-framed using the Creative Commons licensing structure.

Food and Agriculture Organization (FAO)

The third agriculture-related initiative worth mentioning is the Food and Agriculture Organization[25] (FAO). In the context of OER Africa's agriculture CoP, the FAO may become a resource rather than a partner. The FAO has a massive database of resources covering a vast array of topics including:

- Crop production systems management;
- Diseases and pests of animals and plants;
- Fisheries and aquaculture management and conservation;
- Food and agriculture policy;
- Forestry management and conservation;
- Gender and equity in rural societies;
- Livestock production systems management;
- Nutrition and consumer protection;
- Rural infrastructure and agro-industries;
- Rural livelihood and food security;
- Sustainable natural resources management;
- Trade and marketing; and
- Other technical areas (agriculture management and support).

All materials on the FAO website fall under the following IPR framework: 'Reproduction and dissemination of material contained on FAO's Web site for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged'.[26] There is a rider that suggests that this is not a highly conducive framework for the development of locally contextualized OER from these materials. However, ANAFE, via ICRAF, has strong links with the FAO. If this link can be successfully leveraged it is not beyond the realms of possibility that FAO materials might be able to be adapted as OER in the context of the HE and training materials development activities that OER Africa seeks to support.

To sum up, ANAFE may be the ideal entry point for the agriculture CoP although considerable work would need to be done by OER Africa to gain access to what seems to be a thriving initiative.

22 http://www.ruforum.org/docs/reports/IPR_policy_3.pdf.

23 Ibid.

24 Ibid.

25 http://www.fao.org/index_en.htm.

26 http://www.fao.org/copyright_en.htm.

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Ideally, once the partnership has been established, OER Africa could suggest to ANAFE the value of involving the university partners in RUFORUM and together utilise the FAO resources to support a vibrant CoP aimed at developing quality learning materials for agricultural programmes for the HE sector in Africa. Additional CoP members from the wide array of agriculture initiatives in Sub-Saharan Africa (such as FARA[27]) may eventually join this CoP.

The Forum for Agricultural Research in Africa (FARA) is well worth investigating further for both the agriculture CoP and, as described later in this paper, the fisheries and marine science CoP. It has initiated, with DfID funding, the Strengthening Capacity for Agricultural Research in Africa (SCARDA) project. The purpose of SCARDA is to 'strengthen the institutional and human capacity of African agricultural research systems to identify, generate and deliver research outputs that meet the needs of poor people'.[28] A sub-component of SCARDA is the Building African Scientific and Institutional Capacity (BASIC). BASIC's purpose is to 'raise the quality and relevance of African tertiary agricultural education to encompass the crosscutting issues that are pertinent to attaining sustainable and profitable agriculture and develop new cadres of professionals for national, regional and international agricultural science, extension, business and policy forums'.[29] It would seem therefore, that FARA might add considerable value to an Agriculture CoP.

Fishing and Marine Studies

The Context

Fishing and marine studies could be considered as a sub-section of the agriculture CoP. The fish sector makes a vital contribution to the food and nutritional security of 200 million Africans and provides income for over 10 million engaged in fish production, processing and trade. Moreover, fish has become a leading export commodity for Africa, with an annual export value of US$2.7 billion. Yet these benefits are at risk as the exploitation of natural fish stocks is reaching its limit and aquaculture production has not yet fulfilled its potential.[30] The issue of over- exploitation of the marine resources is currently a hot topic. Towards the end of 2007, a meeting was held at Kilifi, Kenya, that was attended by civil society organisations from Kenya, Tanzania, Mozambique, Seychelles, Mauritius, South Africa and Namibia. The purpose of the meeting, organised by the Institute for Security Studies,[31] was to discuss the social and environmental crisis caused by illegal and unsustainable exploitation of marine resources in Africa's territorial waters and to explore ways in which civil society can work together to find practical solutions to avert this crisis. An interim steering committee was formed comprising participants from Mauritius, Kenya, Seychelles, Tanzania, South Africa and Namibia.[32]

Recently the New Partnership for Africa's Development (NEPAD) began taking the lead in developing regional priorities for future investments in fisheries and aquaculture as part of its wider agriculture programme.[33] However, there seems to be little in the programme's activities that is directed towards education and training at the HE level. Furthermore, a scan of the Internet reveals that while several universities in Sub-Saharan Africa have Marine Biology, Oceanography, Fisheries or related programmes, there does not seem to be any established network for collaboration or cooperation among these.[34]

Possible OER Africa Partner(s)

This would seem to be an example of 'starting from scratch' in terms of OER Africa's level of involvement initiating the CoP. There are however two important regional initiatives that might be involved in a fisheries and marine studies CoP.

27 Forum for Agricultural Research in Africa (http://www.fara-africa.org/knowledge-base/). FARA is described further in a later domain area (fisheries and marine studies).

28 http://www.fara-africa.org/networking-support-projects/scarda/ under the heading SCARDA objectives.

29 http://fara.infosysplus.org/fara/fara_index.php/tpl/fara_progs/URL_NAME/fara - under the heading 'Basic purposes'.30 WorldFish Center. 2005.

31 www.iss.co.za/.

32 http://www.illegal-fishing.info/uploads/Kilifi_Declaration_of_Intent.19.12.07.pdf.

33 http://www.fishforall.org/ffa-summit/africasummit.asp.

34 OER Africa has written to several institutions to verify this since an absence of an online presence does not preclude the existence of these networks. Information received back from one informant indicates that no such network exists and that the universities running these programmes compete quite heavily in order to attract students from a limited pool.

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The Ocean Data and Information Network for Africa (ODINAFRICA)

ODINAFRICA[35] is by far the most significant and wide reaching initiative in Sub-Saharan Africa, bringing together marine institutions from 25 member states[36] of the Intergovernmental Oceanographic Commission of UNESCO[37] from Africa. Initially, ODINAFRICA's activities revolved around facilitating member states to get access to marine and fisheries data available in other data centres worldwide as well as to develop the skills required to manipulate this data into 'information products'. In the future, ODINAFRICA hopes to enhance 'data flows into the national oceanographic data and information centres in the participating countries, strengthening the capacity of these centres to analyse and interpret the data so as to develop products required for integrated management of the coastal areas of Africa, and increase the delivery of services to end users.[38] The idea is to enable the member states to address the key issues of: (i) coastal erosion; (ii) management of key ecosystems and habitats; (iii) pollution; (iv) sustainable use of living resources; and (v) tourism.

As an information-sharing initiative primarily, there is no indication that ODINAFRICA is involved in education materials development nor is there any obvious participation by universities.[39] It may be possible that OER Africa could work through the very high level membership of ODINAFRICA (often at permanent secretary or ministerial level) to promote the development of a CoP among universities in the member states. This may represent a considerable amount of work for OER Africa unless an 'OER champion' in the field of fisheries and marine studies can be identified to become involved.

Forum for Agricultural Research in Africa

FARA was mentioned earlier in this paper in reference to its key area of interest – agriculture. More recently FARA has also taken a more specific interest in fisheries and marine biology research. Following NEPAD's 'Fish for All' summit in 2005, NEPAD released its 'Action Plan for the Development of African Fisheries and Aquaculture'. FARA is partnering with AU-NEPAD and the World Fish Centre to integrate fisheries into NEPAD's Comprehensive Africa Agriculture Development Programme (CAADP)[40] companion document. FARA was also a stakeholder at the consultative meeting to agree on mechanisms for coordination, resource mobilisation, information sharing and learning. It developed regional research programmes and an advocacy strategy. Importantly for the OER Africa CoP, this initiative will involve all African science and technology institutions (presumably including HE and training institutions) in the fisheries and aquaculture sector, as well as community stakeholders (particularly fishermen), fisheries associations, women groups of fish processors, NGOs, and the private sector in fisheries.

More broadly, and beyond the area of fisheries and marine science, FARA also has in place a series of 'networking functions', one of which is the Regional Agricultural Information and Learning System (RAILS), the purpose of which is 'to fill current gaps in the rural community–NARS[41] regional continental global information chain. It adds value to existing systems while avoiding duplication. It is guided by an assessment of agricultural information systems in Africa and consultations with stakeholders, including SROs and international information service providers.[42] RAILS's objective is in some respects similar to OER Africa's in that it seeks to provide:

- Coordination, facilitation and harmonisation of information exchange in Africa;
- Information platform on African agricultural research for development stakeholders and resources;

35 http://www.odinafrica.net/.

36 Algeria, Angola, Benin, Cameroon, Comoros, Congo, Cote d'Ivoire, Egypt, Gabon, Ghana, Guinea, Kenya, Madagascar, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Senegal, Seychelles, South Africa, United Republic of Tanzania, Togo, and Tunisia.

37 http://ioc-unesco.org/.

38 http://www.odinafrica.org/, see section "About ODIN Africa" paragraph three.

39 One might assume that member states may have delegated some of the data gathering activities to universities in their respective countries but this is not clear from the information available.

40 http://www.nepad.org/2005/files/caadp.php.

41 NARS – National Agriculture Research Systems.

42 http://www.fara-africa.org/networking-support-projects/rails/.

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- Advocacy for improved policies; and
- Capacity building on ICT/ICM skills, infrastructure and leadership

What is noticeably lacking in FARA's documentation is any materials development aspect for agriculture or fisheries programmes within the education sector in general and at HE level in particular. OER Africa may be able to provide a valuable addition to FARA's activities in this regard.

Health

The Context

Africa's health statistics remain the worst in the world with 80 percent of infectious diseases found in Sub-Saharan Africa. 'Of the 36 million people infected worldwide with HIV/AIDS, more than 72 percent reside in Africa. Malaria alone kills two million people and reduces the GDP of SSA by one percent every year. Tuberculosis, a disease of the poor, has re-emerged and, reinforced by drug resistance, is causing havoc throughout the continent along with infectious diarrhoea, pneumonia and whooping cough, poliomyelitis, measles, river blindness, sleeping sickness. Infant mortality in the continent stands at 103 per 1000 against and average of 8 per 1000 for the developed world. Fifty four per cent of this mortality is ascribed to malnutrition.[43]

The need for African-based training for health professionals in a culturally relevant setting has been recognised for several decades. Initially however, the strategy was, at least in part, to train graduates aboard and then ask them to apply their new knowledge and skills when they returned home. The rate of return on this approach did not result in the number of health care professionals required to service the health sector in Sub-Saharan Africa. Subsequently, professional and in-service training in health education was organised by a variety of African and other institutions including universities, ministries of health, international and bilateral agencies (e.g. UNICEF, WHO, USAID), and NGOs (e.g. AMREF). Often this took the form of training based on western models that were not entirely appropriate to the unique context within which they were taking place.

Furthermore, such training facilitated the movement of health care professionals away from Africa to fill the demand in western countries and thereby exacerbated the shortages in national health care systems. Beyond the issue of 'brain drain' promoted by the western models of training, it was quickly recognised that setting up a training programme in an African university that duplicated the training undertaken in European or American classrooms would still not guarantee its efficacy or appropriateness in the African context. To ameliorate this, more recently the health sector in Africa has established the need to develop culturally appropriate training materials and experiences.

Possible OER Africa Partner(s)

Similar to the agriculture initiatives described above, there are a number of health-related initiatives currently underway in Sub-Saharan Africa. These are also characterised by their diverse scope – with some being Africa-wide and others more localised. Those that are involved with the HE and training sector are more limited and those dealing with materials development that might be characterised as OER form an even more defined group. However, there is some interesting potential among these. OER Africa has already decided to explore one in particular – the University of Michigan project – but there are several other initiatives that, if synergies can be established, would extend the OER health CoP's reach beyond the two initially participating institutions (in Ghana and South Africa) that are currently being targeted by the aforementioned project.

There are three projects that may be of interest to OER Africa.

OER Africa/University of Michigan Health OER Project

The University of Michigan (U-M) Medical School[44] has launched a pilot project to develop pre-clinical health curricula that will be made available

43 http://www.uneca.org/estnet/Ecadocuments/Abuja%20ATPS%20Conference%20-%20Address%20v1.doc.

44 This project is yet to establish a definitive web-site at U-M. In scrutinising the current U-M website there is a set of projects being run by the University of Michigan Medical School (UMMS) as part of an initiative called Global REACH (Global Research, Education And Collaboration in Health). The above pilot is likely to be one of these projects. http://www.med.umich.edu/Medschool/global/index.htm.

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worldwide via the Internet. For the pilot, the U-M has approached OER Africa to work jointly with the University of Cape Town (South Africa) and the Kwame Nkrumah University of Science and Technology (Ghana). The intention of the project is to address the education of health care providers in developing countries in Africa initially, and later to expand this to other parts of the world. One of its outputs will be to enhance access for health science schools around the world to materials that can be used to help educate health professionals.

The IPR framework for this project will use Creative Commons licenses that will enable U-M to convert its existing educational materials into Open Educational Resources, which will be freely available online. The Medical School and the Schools of Public Health and Dentistry will provide materials for the pilot. Other U-M Health Science Schools and the School of Information are also supporting the OER programme.

Given that OER Africa is already engaged with the U-M Health OER Project, it would seem unnecessary to offer advice here as to whether or not this project provides the best partnership for the health CoP. Certainly the limited participation in the pilot of only two African universities is noteworthy, given the scale of the need for quality health education materials and support across Sub-Saharan Africa. However, as a pilot this partnership will be established with OER Africa as a key stakeholder and therefore may not involve a process of trying to convince existing health education and training projects or networks that 'the new kid on the block' (OER Africa) has something to offer to justify its inclusion. Also, given the U-M project's intention to expand beyond the two initial partners, wider participation in the health CoP by other African university medical and health science faculties is a strong likelihood.

A further positive aspect of the U-M project seems to be the high levels of awareness of the context exhibited by the participants. Based on the report by Catherine Ngugi after her meeting with Dr Peter Donkor (KNUST), it seems apparent that the project's emphasis on appropriately contextualised materials development along with human resource capacity development for health education and training professionals is valued as important.

Notwithstanding the positive advances made in this regard, it would be worthwhile for OER Africa to look more broadly at other possible participants in a health CoP. For example, it may be that this CoP establishes a component targeting OER health materials development and training spearheaded by U-M but in addition, the CoP would invite participants from other health-related projects with similar aims into this community. This has the advantage of tapping into a wider set of resources and experiences as well as nurturing these invited participants' eventual inclusion in the U-M project (where appropriate and desirable).

After scanning a range of health-related projects on the Internet there are three additional projects that might fit into the aforementioned framework for the health CoP.

Health Education and Training in Africa (HEAT)

HEAT is another programme being implemented by the OU (UK) in Africa. The HEAT programme[45] seeks to emulate the approach taken by TESSA 'in order to make a significant contribution to a rapid increase in capacity building in the health workforce'. Like TESSA ,the programme will run in collaboration with partner institutions in Africa to support the versioning of existing health curricula to suit local contexts as well the development of new curriculum where required. These materials would fall under the Creative Commons licensing framework and presumably emulate the TESSA CC licensing structure viz BY-SA. The HEAT programme also aims to develop capacity enhancement activities around work-based learning to 'attract new entrant to health work and improve the skills, knowledge and retention of existing health professionals.[46]

This is a very new programme with little in the way of publicly available documentation. It has start-up funding from the same source that partially funds TESSA (i.e. they have £250,000 from the Allan and Nesta Ferguson Trust). They anticipate a further

45 www.open.ac.uk/fundraising/current-priorities/heat.php, quote from paragraph 2.

46 Ibid.

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£810,000 will be required for the 3-year programme. This funding has not yet been sourced.

While there are issues with the TESSA programme's approach (which arguably is less Afro-centric than it purports to be) there would be value in OER Africa seeking to become part of the HEAT initiative – particularly if it can play a similar role to the one anticipated for TESSA. For example, although there is little information available as yet, one might presume that the HEAT programme will seek to develop its own web portal – this might be an area where OER Africa can assist. If the TESSA programme (and portal) administration does eventually come to OER Africa the synergies here are self-evident and should be relatively easy to establish.

The African Medical and Research Foundation (AMREF)

AMREF[47] is an international African organisation headquartered in Nairobi, Kenya. It runs several types of fee-paying courses.[48] These include: an eLearning programme for nurses in Kenya; a Diploma in Community Health (DCH) course, which is a Post-basic Diploma for students from across Africa and beyond; a series of short courses of varying length; and 10 different (print-based) Distance Education (DE) courses. Currently the materials developed for only five of the DE courses exist as OER and for reasons unknown, rather than being available from the AMREF site, these have been posted on the COL website[49] where they are acknowledged as being from AMREF. The process for how they were developed is not obvious on either site; further information has been requested from COL to try to ascertain who was involved and whether there is a community formed around this process. The five that are available are distributed under the Creative Common Attribution-Share Alike [BY-SA] 3.0 license.

Overall, AMREF seems to be an organisation that 'does its own thing' in terms of education and training. It has projects in five African countries – Kenya, Tanzania, Uganda, Southern Sudan, Ethiopia and South Africa – none of which seem to be linked to local HEIs.[50] Despite engaging in health education programmes it is unclear as to how these programmes are accredited. Whether or not OER Africa can encourage AMREF's participation in an online CoP around health or in a process of collaboratively authoring further OER materials for health education is a matter for further exploration and discussion. An initial area that might be worth investigating is whether or not AMREF would be prepared to release more of its educational content to OER Africa as OER.

The Leadership Initiative for Public Health in East Africa (LIPHEA)

The LIPHEA website lists the programme's goals as being:

- To establish long-term partnerships between academic institutions in the United States and East Africa;
- To provide substantial assistance to East Africa through curriculum revision, development of in-service short-term training of public health practitioners, and development of faculty in order to prepare the next generation of public health professionals for national and regional public health systems;
- To reduce 'brain drain' by improving professional development opportunities for public health leaders.

LIPHEA[51] is an interesting network from several points of view: firstly, although it was initiated and is managed by Johns Hopkins University, its web presence is heavily weighted towards the East African partners it supports – Makerere University School of Public Health (MUSPH) and Muhimbili University College of Health Sciences (MUCHS); secondly, the emphasis on training aimed at public health leadership is somewhat unique; thirdly the website has a 'community area[52] containing several forums, email lists and working groups, a research

47 http://www.amref.org/who-we-are/.

48 http://www.amref.org/info-centre/amref-courses--training-programmes/.

49 http://www.col.org/colweb/site/pid/4516.

50 AMREF is listed on other health project websites as a partner. Some of these networks do include HE institutions.

51 http://liphea.org/.

52 Regrettably the participation in any of these by members of the network is negligible despite being well conceptualised at some point. The reasons for this may be something about which OER Africa should enquire.

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and data collection centre, along with a very 'clean' interface for members to use.

The list of partners in this programme is edifying with members including AMREF, the World Bank and USAID along with six East African universities and five external (US- based) education partners. A complete list appears below:

- Jimma University Faculty of Public Health (JUFPH);
- Makerere University Institute of Public Health;
- Muhimbili University College of Health Sciences;
- National University of Rwanda, School of Public Health;
- Université de Kinshasa Ecole de Santé Publique (UKESP);
- University of Nairobi, College of Community Health;
- African Medical and Research Foundation (AMREF);
- Higher Education for Development (HED);
- Johns Hopkins Bloomberg School of Public Health;
- Management Sciences for Health[53] (MSH): Center for Leadership and Management (CLM);
- The Payson Center for International Development and Technology Transfer;[54]
- Tulane University School of Public Health and Tropical Medicine (TUSPHTM);[55]
- US Agency for International Development (USAID);
- The World Bank.

The site also has quite an extensive collection of health-related resources. The IPR for these is mixed with some being copyrighted while others allow for use by trainers and educators. It is unclear if these can be adapted although one of the manuals inspected in more detail did prohibit translations without permission from the author. While there is a section of the website specifically labelled 'Academic Programs' this is currently empty. The website for this initiative seems to adopt the same type of approach aimed at by OER Africa in the way it is structured for community participation and resource sharing. However, it has not fully developed the notion of making the resources freely available under OER-friendly CC licenses.

This programme may also be worth further investigation. It seems to be on the right track but for reasons that are unclear the collaborative online tools are barely utilised. The network is very much oriented towards the HE sector and it has a partnership (albeit largely undefined) with one of the other key players in the health sector in Africa (AMREF).

Peoples-Uni

Following on from the ACDE forum and other interactions OER Africa has had with them, the Peoples-Uni[56] initiative may also be a possible partner to consider for the health OER CoP. From their website it appears they have the right approach when they 'propose an educational initiative based on the open education resources [OER] available on the Internet. If we can develop an educational context around the open resources that are freely available, this might provide a low cost solution to capacity building in developing countries. This added context would include:

- Materials: a repository for accessing materials which are linked to identified competence development, and can be modified to reflect local settings
- Teachers: the teaching or facilitation of learning
- Adoption of the Web 2.0 philosophy – collaborative participation among teachers and users to make sure that the education is relevant and of high quality
- Accreditation of learning: a system for accrediting learned competencies.[57]

The concern with all of the above is the similarity of their outcomes juxtaposed with a seeming lack

53 A non-profit international health organisation composed of nearly 1,300 people from more than 60 nations. http://www.msh.org/about-us/index.cfm.

54 An interdisciplinary centre at Tulane University that offers undergraduate and graduate degrees in international development. http://payson.tulane.edu/about.html

55 http://www.sph.tulane.edu/tropmed/.

56 http://www.peoples-uni.org/.

57 http://www.peoples-uni.org/content/courses-peoples-uni.

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of interaction among them. OER Africa may need to tread carefully if it decides to amalgamate all of these initiatives under a single CoP. While the outcomes are strikingly similar, the various governance, funding and political issues accruing to each may be a minefield.

Open and Distance Learning

The Context

Currently, HEIs are unable to cater for the vast numbers of prospective students seeking admission to their programmes due to human resource and capacity constraints. Open and Distance Learning (ODL) represents an important mechanism whereby universities in Sub-Saharan Africa can better meet the excess demand for tertiary education and training on the African continent. While some universities in Sub-Saharan Africa are investing resources in exploring the most efficient ways of delivering open learning, blended learning, distance education and electronic learning, others in the conventional university education system, despite participation rates of around one to four percent,[58] are still debating whether or not to go this route. This is an unacceptable situation if Africa is to be competitive in the global economy. Africa has to establish itself s a key player in the generation, management, dissemination and utilisation of knowledge.[59]

Possible OER Africa Partner(s)

Arguably, the ODL domain area may have the most potential for OER Africa, if one takes into account that knowledge developed and shared within this CoP could be applied to other CoPs in the HE context and thereby contribute to expanding access to a variety of programmes that are oversubscribed by campus-based delivery.

The African Council for Distance Education (ACDE)

ACDE[60] is a relatively new initiative with a membership comprising African universities and other HEIs that are 'committed to expanding access to quality education and training through open and distance learning'. ACDE's website lists its goals as to:

- Promote open and distance learning, flexible and continuing education in Africa;
- Promote research and training in open and distance learning in Africa;
- Contribute to the development of policies essential to the advancement of open and distance learning;
- Foster continental and global collaboration in open and distance learning;
- Provide a forum where individuals, organisations and governments can deliberate on policy matters on open and distance learning;
- Promote the development of appropriate methods and technologies in education and training relevant to open and distance learning;
- Provide a forum for interaction, sharing and dissemination of ideas on open and distance learning.

Currently the ACDE lacks the capacity to support the types of forums and collaborations detailed above. Most of its business is currently conducted through face-to-face meetings, which is proving a cumbersome, time-consuming and expensive approach. Recently ACDE established an online group (using Google Groups) to conduct a pre-conference online forum. A quick analysis of the forum indicates that of the 124 members only about 40 percent participated at all (even to introduce themselves), while only 8 percent of participants seemed to really engage in the discussions.[61] A significant proportion of those involved appeared to be from one country – Nigeria – followed closely by participants from outside the continent.

OER Africa has already established initial contact with ACDE that resulted in OER Africa subsequently signing an Memorandum of Understanding (MoU) with ACDE with the aim of assisting ACDE to realise its goals pertaining to networking and collabora-

58 South Africa registers around 35 percent. Some developed countries are registering almost 80 percent participation rates for the age cohort that is supposed to be in the tertiary education and training sector.

59 Dzvimbo K.P. (2006) BOLESWANA keynote address. Paper presented at the BOLESWANA Conference held at the University of Namibia, 6 – 8 July 2005.

60 http://www.acde-africa.org/html/about_ACDE.htm.

61 Studies of online discussion forums have suggested several possible factors governing participants' engagement levels. These will be addressed in a later paper dealing specifically with CoPs.

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tion online. Judging from the initial online forum there is considerable scope for OER Africa to add value to the development of ACDE's collaborative activities online. The risk here is that OER Africa is relying on a very new organisation to establish a following that it will then nurture successfully via the OER Africa web portal.

It remains unclear whether or not ACDE will thrive as the voice of ODL in Sub-Saharan Africa but OER Africa may be able to make a valuable contribution in this regard. For example, it may be that OER Africa can invite ACDE to continue the pre-conference forum discussions as a CoP on the OER Africa website. As a starting point, OER Africa will need to provide a 'CoP moderator's guide' to groups such as ACDE if their online interactions are going to be meaningful and productive. The other collaboration activities ACDE has listed for itself may also benefit from OER Africa's online portal tools and functionality.

Although ACDE is a sensible choice for the ODL CoP, OER Africa may do well to include other organisations (such as SAIDE, COL and perhaps even ICDE[62]) in the ODL COP.

The Commonwealth of Learning OER materials

This section treats a variety of materials on various domain areas brought to the attention of OER Africa by Paul West during the AG meeting. In addition to COL's ODL materials that might be added to the previous domain area, four sets of materials are available from COL's website[63] that OER Africa might like to consider using. These are:

- Entrepreneurship and tourism;
- Professional development of educators for practising professionals;
- Life skills for school teachers and counsellors; and
- Disaster management for entry-level university students and professionals from an appropriate agency.

These were developed as part of COL's VUSSC course materials collection using WikiEducator.[64] The methodology adopted by COL is worthy of note in that COL facilitated a series of pan-Commonwealth workshops in Mauritius, Samoa, Singapore and Trinidad and Tobago. Workshop participants were trained in the materials development processes and began to create course materials, continuing their collaboration (via WikiEducator) after returning home. While some have questioned the quality of the resultant materials and the efficacy of the Wiki environment in their development,[65] COL's emphasis on having these community members meet face to face (at least initially) is a strategy that OER Africa may wish to investigate further when implementing materials development in CoPs.

As a set of ready-made resources for OER Africa's OER collection, some of COL's materials are well worth inclusion. However, if these resources are to be used it might be worth establishing CoPs that would enhance their quality (in some cases) and usability within the context of Sub-Saharan Africa. As with several of the other existing initiatives covered in this paper, OER Africa may have to determine how its activities differ from the current CoPs established on WikiEducator. What would the incentive be for 'WikiEducators' to join the OER Africa CoPs?

There are quite an array of subject areas covered[66] by the COL materials, which are almost all available for download and adaptation. Those that OER Africa may wish to investigate further include:[67]

62 COL's work in ODL is well known. The International Council for Open and Distance Education (ICDE) is the international equivalent to ACDE and is recognised by the United Nations (UNESCO), and serves as the Global Umbrella Membership Organization in Online, Flexible and Blended Learning, including e-learning and distance education. ICDE now has a task force for OER, the activities of which OER Africa may wish to monitor. http://www.icde.org/oslo/icde.nsf/id/84539E826695EBFDC125727D0053F70C?OpenDocument.

63 www.col.org.

64 www.wikieducator.org/.

65 Despite the reservations some educators have, participation in WikiEducator is expanding and gaining credibility (see http://halfanhour.blogspot.com/2007/12/not-edublog-award-winners.html).

66 For a complete list check http://www.col.org/colweb/site/pid/4659.

67 The AMREF courses mentioned earlier are not duplicated here.

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- Commonwealth Executive MBA/CEMPA;
- Commonwealth Computer Navigator's Certificate;
- Counselling For Caregivers;
- Environmental Engineering Modules:-
  - Air Pollution Control;
  - Environmental Management;
  - Management Of Municipal Solid Waste;
  - Municipal Water And Wastewater Treatment; and
  - Soil And Groundwater Pollution From Agricultural Activities.
- Green Teacher – Diploma In Environmental Education (Distance Learning Programme For Educators);
- Introduction To Tourism: Adaptation Guide For Delivering Institution;
- Kwazulu-Natal Training Materials For Women Managers;
- Learning About Small Business;
- Learning For MDGS: Online Modules;
- Legislative Drafting;
- Masters Of Arts In Teacher Education (International) – The Open University Of Sri Lanka And COL;
- Science, Technology And Mathematics Programme 2000+ (Stamp 2000+):-
  - General Education;
  - Science, Technology And Mathematics;
  - Upper Primary Science;
  - Junior Secondary Science;
  - Upper Primary Technology;
  - Junior Secondary Technology;
  - Upper Primary Mathematics; and
  - Junior Secondary Mathematics.
- Secondary School Level Education Quality Learning Materials:-
  - English;
  - Science;
  - Biology;
  - Chemistry; and
  - Physics
- Supporting Distance Education Through Policy Development;
- Technical And Vocational Teacher Training (In-Service) (TVET);
- Writing Skills For Business English;
- Training For NGO Staff; and
- Training Educators to Design and Develop ODL Materials.

Included in the above are several sets of materials that cover other areas mentioned by the AG including:

- Business Studies (Commonwealth Executive MBA/CEMPA and Learning About Small Business, Writing Skills For Business English);
- ICT training (Commonwealth Computer Navigator's Certificate);
- Open and Distance Learning (ODL) courses (Training Educators to Design and Develop ODL Materials, as well as a host of guides and manuals pertaining to effective development and implementation of ODL).

With the exception of the ODL programmes mentioned earlier, OER Africa will adopt a phased approach to investigating – and possibly establishing – networks that might in the future be interested in working collaboratively as CoPs in some of the above domain areas. The COL resources, along with other sets of materials acquired over time from other sources, could be used as entry points for CoPs wishing to develop or contextualise these materials further for their HE programmes. In the meantime, even before a formal CoP is established, OER Africa could continue to add resources to its collections under each domain area. Appendix 1 provides an initial list of networks in Africa covering a variety of domains that may eventually participate in some of these CoPs. This list is by no means exhaustive and should be expanded as OER Africa becomes aware of new networking opportunities.

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Other Initiatives

In addition those outlined above, there are several other initiatives in which OER Africa may be able to leverage an opportunity to establish further CoPs in a variety of domain areas. For example, the MERLOT Africa Network[68] (MAN) seeks to undertake a very similar set of activities across an undetermined set of domain areas. Meetings between OER Africa staff and MAN were scheduled to take place during the eLearning Africa conference in Ghana. At the time of writing it was unclear as to the outcome of these discussions. The MAN initiative appears to have the objective of setting itself up as a key player for OER in Africa. It will be up to OER Africa to continue to look for ways to collaborate with MAN.

A second key example is the Open CourseWare Consortium[69] (OCWC). This is an expanding global network, except in Sub-Saharan Africa where there is only one university listed as a member (University of Cape Town[70]). OER Africa has initiated discussions with OCWC, which might lead to further activities. It is possible that OER Africa could operate almost as a 'broker' for OCWC in Sub-Saharan Africa; that is, it could use its presence 'on the ground' in Africa to promote OCWC's collaborative approach by highlighting the benefits of membership to African HEIs. OER Africa could also provide a trusted information service that, for example, guides African HEIs through the process of joining OCWC and assists potential participants to overcome any fear or uncertainty about joining. Finally, participating in the OCWC would enable access to a whole host of materials in a variety of domain areas that could eventually act as catalyst for the formation of new CoPs within OER Africa. The approach here might be to promote the participation of as many HEIs as possible in the OCWC as a general principle and then establish multiple CoPs around more specific domain areas as required. This would have the benefit of placing the African HEIs at the centre of the process.

OER Africa's plan to list (and link to) other OER initiatives and OER collections will also be an important part of its strategy to establish itself as the pre-eminent OER initiative on the continent. If users feel they can quickly and easily locate quality resources, not just from OER Africa's collection, but from other sources too through federated searches using OER Africa's web portal, it will assist in establishing this position.

68 http://man.merlot.org/.

69 www.ocwconsortium.org.

70 UCT is largely a member in name only. Despite having OER (or FORE as they term it) policies in place, their ability to develop courses for OCWC has not yet come to fruition.

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Conclusion

The key purpose of this research note has been to detail the domain areas suggested by the AG that OER Africa may consider pursuing as Communities of Practice. For each of these, possible collaborative partnerships with existing initiatives have been identified and analysed. A key question that is raised throughout the paper is: By what process will OER Africa initiate and support these CoPs in such a way that the initiatives it is targeting for collaboration, some of which are well established in their own right, will decide to partner in OER Africa's activities?

In conclusion, there are other domain areas that OER Africa will pursue in the future including Engineering, Mining and Literature. However, there are others that may be 'ripe for the picking' and warrant further investigation, and those that might be followed up initially are included in an appendix to this paper. Further investigation and analysis similar to that undertaken for the above domain areas will be required before these are added to the set of CoPs to be initiated and/or supported by OER Africa.

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Appendix 1: Education Networks in Africa or with a Focus on Africa

GIEWSAlerts-L

GIEWSAlerts-L setup by the FAO's Global Information and Early Warning System on Food and Agriculture (GIEWS) to disseminate its 'Special Reports' and 'Special Alerts' on countries facing food supply shortages. These reports are often the result of rapid evaluation missions in the countries and give information on the crop production, the food supply situation at national and sub-national level, and the food aid needs.

http://www.fao.org/WAICENT/FAOINFO/ECONOMIC/GIEWS/english/listserv.htm

Web Forum for Sustainable Agri-Food Production and Consumption

The Web Forum for Sustainable Agri-Food Production and Consumption helps users to access information on key issues related to agri-food production and consumption, such as agrobiodiversity, water, energy, climate change, chemicals, desertification, consumption, trade, and poverty.

http://www.agrifood-forum.net

Electronic Journal on Information Systems in Developing Countries

The Electronic Journal on Information Systems in Developing Countries (EJISDC) strives to become the foremost international forum for practitioners, teachers, researchers and policy makers to share their knowledge and experience in the design, development, implementation, management and evaluation of information systems and technologies in developing countries.

http://www.unimas.my/fit/roger/EJISDC/EJISDC.htm

Science and Technology for Development

The Science and Technology for Development (STD) discussion list is an online forum, web site, and electronic service for members of the United Nations Commission on Science and Technology for Development (CSTD), policy makers, diplomats, national and international civil servants, researchers, consultants, teachers, students, entrepreneurs, NGOs, and others interested in policy making as well as the study, application and sharing of experiences in science and technology for development and related fields.

http://topica.com/lists/STD

World Bank Forum on Globalization, Development and Poverty

The World Bank Forum on Globalization, Development and Poverty offers an email discussion list for persons interested in exchanging ideas on globalisation, development and poverty.

http://www.uneca.org/estnet/reference_and_documents/net_gains_african_women_take_stock.htm - see under heading: wbpovertyforum@topica.com

Afagrict-I

Afagrict-I is an electronic forum devoted to ICTs in Agriculture and Natural Resource Management in Africa.

http://www.agricta.org/afagrict-l

Millennium Project

The Millennium Project offers public discussion about the future of humanity, technology, economics, environment, education, governance, and civilisation.

http://www.geocities.com/CapitolHill/Senate/4787/millennium/listserv.html

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United Nations Commission on Science and Technology for Development – Private Discussion List

The United Nations Commission on Science and Technology for Development - Private Discussion List is an Internet forum open to members of the United Nations Commission on Science and Technology for Development and staff members of its UNCTAD Secretariat.

http://www.topica.com/lists/CSTD

Africa Knowledge Networks Forum

The Africa Knowledge Networks Forum is an initiative led by the Economic Commission for Africa to facilitate knowledge-sharing and research partnerships between professional networks, and between them and key knowledge end-users, including policy makers, trainers at institutions of higher learning, civil society organisations and the private sector. Links to relevant documents (both in English and French) are also available on the Publications page.

http://www.unsia.org/aknf

UNCTAD Trade Point Development Center

The Population Information Network-Africa (POPIN-Africa) is a first attempt to present a collection of population information resources on the web produced in and by African institutions. An overview of international institutions with a strong African accent is also provided.

http://www.un.org/Depts/eca/divis/fssd/popin

SANGONeT

SANGONeT is a regional electronic information and communications network for development and human rights workers. It works towards networking the key players in non-governmental organisations, community based organisations, government and the private sector and providing them with the information they need.

http://wn.apc.org

NGO Net for Africa

NGO Net for Africa supports the interactivity and networking of non-governmental organisations and community-based organisations who work for African development.

http://www.ngo-net.org

InterAfrica Group NGO Networking Service

The InterAfrica Group NGO Networking Service (NNS) is a project dedicated to improving the flow of information between the North and South and enhancing capacity of indigenous civil society organisations in the Horn of Africa.

http://www.interafricagroup.org

SciDev.Net

SciDev.Net is a free-access, Internet-based network devoted to reporting on and discussing those aspects of modern science and technology that are relevant to sustainable development and the social and economic needs of developing countries.

http://www.scidev.net/

Plant Genetic Resources Networks and Associated Crop Networks

Plant Genetic Resources Networks and Associated Crop Networks were established to strengthen national programmes by reinforcing the role of national plant genetic resources committees and promoting cooperation between institutions within countries and programmes within the sub-region. These crop-specific networks aim to develop locally adapted improved crop varieties through research and training.

http://www.fao.org/WAICENT/FaoInfo/Agricult/AGP/AGPS/pgr/netw.htm

West and Central Africa Sorghum Research Network

The West and Central Africa Sorghum Research Network aims to improve the production, productivity, and utilisation of sorghum,

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contribute to greater food security and enhance the economic and social well-being of the people of the sorghum-producing countries of West and Central Africa.

http://www.icrisat.org/text/partnerships/networks/wcasrn.htm

African Technology Forum

The African Technology Forum provides, among other services, consulting and networking opportunities for those involved in business and research ventures affecting science and technology in Africa.

http://web.mit.edu/africantech/www

World Bank's Development Marketplace

The World Bank's Development Marketplace is a forum in which all members in the development community can come together.

http://www.developmentmarketplace.org

Association for Progressive Communications – Women's Networking Support Programme

The Association for Progressive Communications – Women's Networking Support Programme (APC-WNSP) promotes gender equity in the design, implementation, and use of information and communication technologies – with special focus on inequities based on women's social or ethnic background – through the provision of research, training, information, and support activities in the field of ICT policy, skills-sharing in the access and use of ICTs, and women's network-building.

http://www.apc.org/english/about/apcwomen

APC-Africa-Women

APC-Africa-Women is the African regional programme of APC's Women's Networking Support Programme (APC WNSP). APC-Africa-Women gathers and works together with women and women's organisations in Africa and all over the world, focusing on African women's empowerment through Information Facilitation, Regional Support, Policy and Advocacy, Training and Research in the field of Information and Communication Technologies (ICTs).

http://www.enda.sn/synfev/apcfemafr/indexapc.html

African Women Global Network

The African Women Global Network (AWOGNet) is a global organisation that networks all men and women, organisations, institutions and indigenous national organisations within Africa, whose activities are targeted towards the improvement of the living conditions of women and children in Africa.

http://www.osu.edu/org/awognet

Gender Awareness Information and Networking System

The Gender Awareness Information and Networking System (GAINS) produces, manages and disseminates gender-related knowledge and information; conducts collaborative research on emerging gender issues and facilitates consultations and dialogue between different stakeholders on global issues using gender-perspective training and capacity-building on women and gender issues.

http://www.un-instraw-gains.org

Women Action

Women Action is a global information, communication and media network that enables NGOs to actively engage in the Beijing+5 review process with the long term goal of women's empowerment and with a special focus on women and media.

http://www.womenaction.org

Third World Network of Scientific Organizations

The Third World Network of Scientific Organizations (TWNSO) is an initiative of the Third World Academy of Sciences (TWAS) and was founded by ministers of science and technology, ministers of higher education, heads of science academies and heads of research councils in developing countries to promote

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scientific capacity and excellence for sustainable development in the South.

http://www.ictp.trieste.it/~twas/TWNSO.html

Global Knowledge for Development

The Global Knowledge for Development discussion examines the impediments to harnessing knowledge and information as tools for development at local, national, and global levels.

http://www.globalknowledge.org/discussion.html#GKII

Global Research Network on Sustainable Development

The Global Research Network on Sustainable Development (GRNSD) is an independent network of people professionally involved in the creation, distribution or use of research information on sustainable development.

http://infolab.kub.nl/grnsd

Centre for International Research and Advisory Networks

The Centre for International Research and Advisory Networks (CIRAN) is a division of Nuffic (Netherlands Organization for International Cooperation in Higher Education). The Centre promotes and facilitates international cooperation in research that is relevant to social and economic development in developing countries. Through its activities CIRAN helps to strengthen the research capacity and knowledge infrastructure in those countries.

http://www.nuffic.nl/ciran

Global Development Network

The Global Development Network (GDN) supports and links research and policy institutes involved in the field of development whose work is predicated on the notion that ideas matter. The initiative, still in its early phase, has proceeded on two fronts: knowledge generation and knowledge sharing.

http://www.gdnet.org

Third World Network

The Third World Network is an independent non-profit international network of organisations and individuals involved in issues relating to development, the Third World and North–South issues. Its objectives are to conduct research on economic, social and environmental issues pertaining to the South, to publish books and magazines, to organise and participate in seminars, and to provide a platform representing broadly Southern interests and perspectives at international fora such as the UN conferences and processes.

http://www.twnside.org.sg

African Technology Policy Studies Network

The African Technology Policy Studies Network (ATPS) aims to improve the quality of technology policy decision-making in sub-Saharan Africa and strengthen the continent's institutional capacity for the management of technological development through research, dissemination, training, and linkages to policy-makers and research end-users.

http://www.atpsnet.org/

Institute for Global Communications

The Institute for Global Communications (IGC) is a non-profit organisation consisting of four networks: PeaceNet, EcoNet, WomensNet, and Anti-RacismNet. The Mission of IGC is to advance the work of progressive organisations and individuals for peace, justice, economic opportunity, human rights, democracy and environmental sustainability through strategic use of online technologies.

http://www.igc.org

Forest Action Network

The Forest Action Network (FAN) in Nairobi, Kenya, serves as the East Africa regional office for FAO's Forests, Trees, and People Programme (FTTP). FAN facilitates networking on issues pertaining to sustainable management of natural resources by bringing together major stakeholders such as researchers, policy

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makers, NGOs, and local communities.

Previously available at http://www.ftpp.or.ke/fan

Indigenous Knowledge and Development Network

The Indigenous Knowledge and Development Network (IK-network) promotes the integration of indigenous knowledge in development as a contribution to the global endeavour to attain a decent and humane society, based on the principles of equity and sustainability. Information sharing is crucial in the IK-network's strategy, which allows the diversity of knowledge to play its appropriate role in community-based and participatory approaches for development.

Previously available at http://www.nuffic.nl/ik-pages/ik-network.html

SchoolNet South Africa

SchoolNet South Africa is an organisation formed to create learning communities of educators and learners that use information and communication technologies (ICTs) to enhance education.

http://www.school.za

Network for the Environment and Sustainable Development in Africa

The Network for the Environment and Sustainable Development in Africa (NESDA) is a membership organisation bringing together environmental experts, policy-makers, technical specialists, institutions and activists from across the region.

http://www.nesda.org

Natural Products Research Network for Eastern and Central Africa

The Natural Products Research Network for Eastern and Central Africa (NAPRECA) is a non-political scientific body devoted to the study, promotion and development of the science of natural products including their chemistry, botany, biological activities and economic exploitation.

Previously available at http://www.chem.udsm.ac.tz/UDSM/napreca

Educational Research Network for West and Central Africa

The Educational Research Network for West and Central Africa (ERNWACA) co-operates with the Network of Networks to create an electronically-equipped adult education documentation and information centre specializing, for example, on gender issues, the girl child, adult and peace education, and environmental education for the benefit of all people in Cameroon.

Previously available at http://www.unesco.org/education/aladin/members/34.htm

Directory of Selected African Research Networks

The Directory of Selected African Research Networks is a special programme of the Rockefeller Foundation that offers names and address of research networks categorized as global, Pan-African and Regional Networks.

Previously available at http://www.rockfound.org/adia/networks.html

Association for Strengthening Agricultural Research in Eastern and Central Africa

The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) provides a forum for consultation and information exchange on the constraints to agricultural production in the region and laying out strategies for overcoming the constraints through regional collaborative research. It also aims to establish a regional strategy for the development and management of human resources and identify and promote the adoption of the best practices in technology development and transfer, including the exchange of germplasm among its members and stakeholders.

http://www.asareca.org

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Network for Ecofarming in Africa

The Network for Ecofarming in Africa (NECOFA) aims at acting as a forum to support all national and international activities supporting ecologically and sociologically sustainable land use management in Africa.

http://www.necofa.org

African Educational Research Network

The African Educational Research Network (AERN) is dedicated to the dissemination of information on Africa.

http://www.ncsu.edu/ncsu/aern

Forests, Trees and People Program & Network

Forests, Trees and People Program & Network is designed to share information about improving community forestry activities and initiatives of interest to its members.

Previously available at http://www.trees.slu.se

Southern African Renewable Energy Information Network

The Southern African Renewable Energy Information Network (SAREIN) is developed as a mechanism for exchanging information and know-how on RE technologies between EU and Southern Africa, identifying opportunities for EU/Southern African partnerships aimed at implementing RE schemes in Southern Africa and encouraging the involvement of private sector industry and finance in the operation and further development of the Network.

http://www.etsu.com/sarein

African Business Network

The African Business Network is oriented towards the needs of investors in Africa. For small businesses, it provides general business help and "how-to" information in formulating a business plan, starting a business, financing and managing it. It also includes a variety of information for larger businesses.

Previously available at http://www.ifc.org/abn

Arid Lands Information Network

The Arid Lands Information Network strives to improve the development practices of community development workers by providing appropriate information in usable form.

Previously available at http://alin.utando.com

Agroforestry Research Network for Eastern and Central Africa

The Agroforestry Research Network for Eastern and Central Africa addresses the issue of the interaction between declining land productivity and poverty that poses a major threat to food and nutritional security, human welfare and environmental sustainability in the countries of Eastern and Central Africa.

Previously available at http://www.bugwood.caes.uga.edu/agriforum/html/agroforestry.html

Southern Africa Agroforestry Research Network

The Southern Africa Agroforestry Research Network's goal is to improve the productivity and sustainability of agriculture through the use of agroforestry. As research results are put into practice, farm productivity is improving and contributing significantly to alleviate rural poverty and meet basic human needs.

http://www.rcfa-cfan.org/english/profile.9.html

Pan African Network Trust

The Pan African Network Trust is acquiring transfer of technology and computer skills for Africa from industrialised countries and pioneering the building of the PANET computer network in Africa to eventually network the whole continent.

http://meltingpot.fortunecity.com/navarino/212

South African Network of Skills Abroad

The South African Network of Skills Abroad (SANSA) links skilled people living abroad who wish to make a contribution to South

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Africa's economic and social development and connects them with local experts and projects.

http://sansa.nrf.ac.za/

ANAIS

ANAIS is a network comprising organisations and individuals who desire to put together their knowledge, expertise and efforts in order to make it easy to master information technology and communication for development. This approach renews the North–South partnership by attaching greater importance to the complementary relationship between those who have the capital, the operators and practitioners who have the technical skill, and the local and international development agents who formulate and implement development activities.

Previously available at http://www.anais.org

UN Global Trade Point Network

The UN Global Trade Point Network (GTP-Net) brings together all providers of services required to make a commercial transaction: customs, foreign trade institutes, freight forwarders, transport companies, banks and insurance firms. Each Trade Point coordinates and shares information with all other Trade Points.

http://www.untpdc.org/untpdc/gtpnet

Sustainable Development Networking Programme

The Sustainable Development Networking Programme is a partnership of organisations and individuals that build an exhaustive repository of information on sustainable development issues pertinent to the Indian sub-continent.

http://sdnp.delhi.nic.in

Sustainable Communities Network

Sustainable Communities Network demonstrates how innovative strategies can produce communities that are more environmentally sound, economically prosperous, and socially equitable.

http://www.sustainable.org

International Development Network

The International Development Network (IDN) promotes sustainable and responsible development initiatives and projects by providing access to development-related information to individuals, NGOs, companies and government agencies.

http://www.idn.org

Canadian Technology Network

The Canadian Technology Network (CTN) provides small or medium-sized technology-related businesses in Canada with access to a wide range of technology and related business assistance through a cross-country network of advisors.

http://ctn.nrc.ca

Global Network of Environment & Technology

The Global Network of Environment & Technology (GNET) provides worldwide access to information on environmental products and services, marketing opportunities, contracts, government programmes, policy and law, current industry news, and business assistance resources via the World Wide Web. GNET was created to assist US government scientists and researchers to commercialize innovative environmental technologies.

http://www.gnet.org

National Biodiversity Network

The National Biodiversity Network is a union of organisations that are collaborating to create an information network of biodiversity data that is accessible through the Internet. By providing easy access to the information people need about wildlife, wise and informed decisions can be made to ensure our natural environment is diverse, rich and sustainable now and for future generations.

http://www.nbn.org.uk

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Tree Pest Management Network

The Tree Pest Management Network aims to promote the protection, health and sustainability of African forests, agroforests and forest environments.

Previously available at http://www.atpmn.org

World Business Council for Sustainable Development

The World Business Council for Sustainable Development (WBCSD) is a network of some 140 international companies united by a shared commitment to sustainable development, i.e. environmental protection, social equity and economic growth.

http://www.wbcsd.org

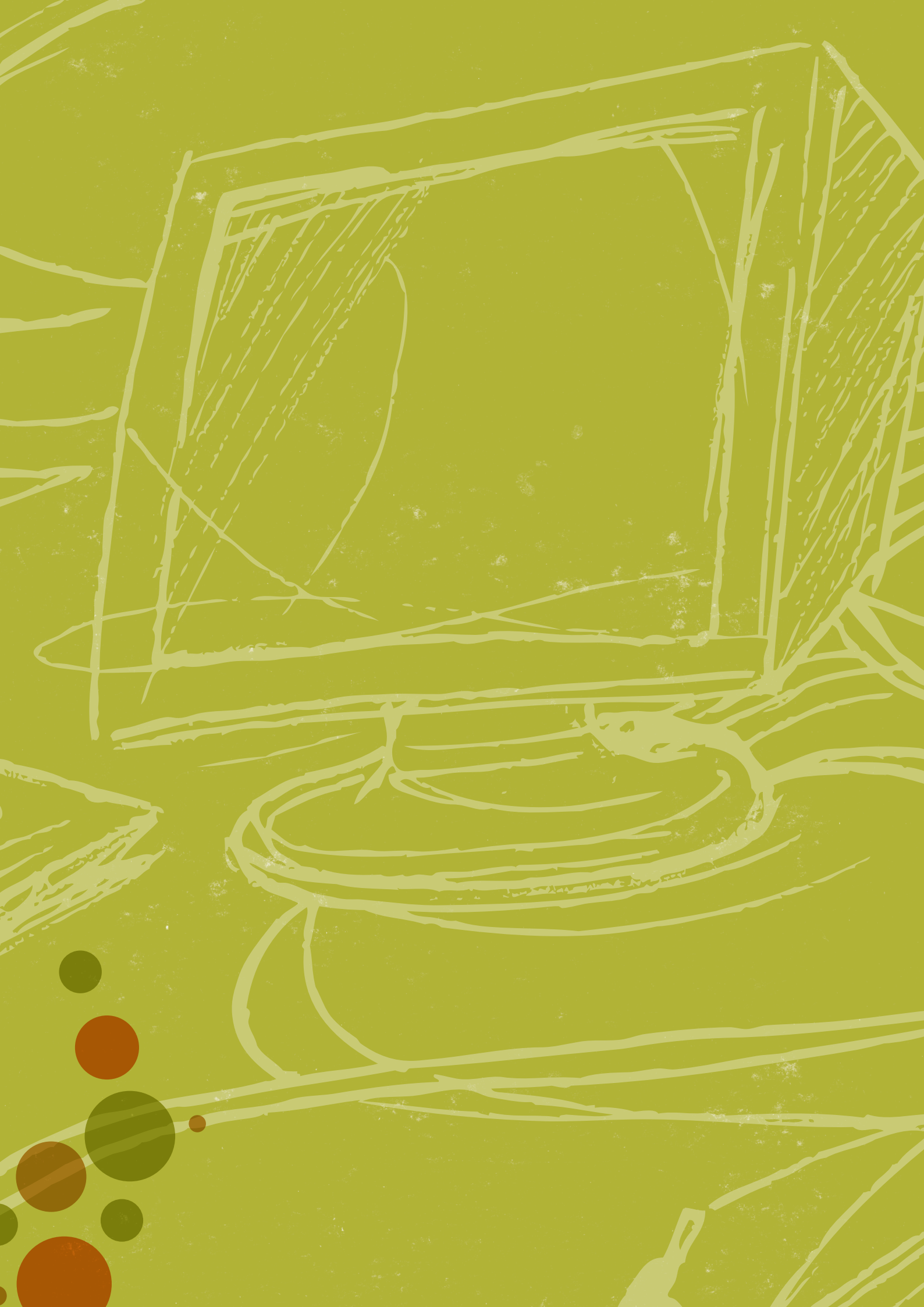
Africa Network Operators Group

The Africa Network Operators Group (AfNOG) is a forum for the exchange of technical information and aims to promote discussion of implementation issues that require community cooperation.

http://www.afnog.org

Uninet

The Uninet academic and research network was a collaborative project among tertiary educational institutions, research councils and the National Research Foundation. Uninet's aim was the development, implementation and promotion of an academic and research network of computers in southern Africa, as an essential link in the region's infrastructure.

Previously available at http://www.frd.ac.za/services/uninet

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