

Two-way traffic: information exchange between the developing and developed world

Over the last ten years there has been an increasing recognition of the gap in information provision between the developed and developing world, and online publishing has enabled many initiatives to provide content at low or no cost. However, access is not the only solution to the problem of the information divide and support is required to ensure use and management of the available resources. Although the current initiatives are to be welcomed, easy access to international information may further weaken national publications – potentially resulting in a loss of indigenous knowledge. To counteract this, several organizations are working with developing-country publishers to give them online visibility and help strengthen their future. This article describes the Programme for the Enhancement of Research Information (PERI), launched by the International Network for the Availability of Scientific Publications (INASP), and in particular the African Journals OnLine (AJOL) initiative, which supports journals published in Africa.



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Background

By the late 1990s, electronic publishing had become an accepted method of dissemination by western publishers; by 2001 it was estimated that more than two-thirds of scientific journals were published in print and online, and there were more than 1,000 electronic-only peer-reviewed journals.¹ Electronic publication provided opportunities for disseminating information into the developing world at low cost to the publishers, and several initiatives were developed to facilitate this.² In addition to individual publisher initiatives, three significant programmes providing access to electronic information in transitional and developing countries are:

- HINARI, launched by the WHO (World Health Organization) in 2002, provides access to over 2000 medical publications free to local, non-profit institutions in 68 countries and at greatly reduced rates to 44 countries (determined by GNP).³
- The recently-launched AGORA initiative (see this issue) supported by the FAO (Food and Agriculture Organization of the United Nations) is also subject-specific, providing agricultural information.

- The Programme for the Enhancement of Research Information (PERI), launched by the International Network for the Availability of Scientific Publications (INASP) in 2001, provides access to over 10,000 publications in most subject areas. Inclusion is based on GDP and the Human Development Index.^{4,5}

Through these and other initiatives, researchers in developing and transitional countries have unprecedented access to international literature. However, access to international journals is not the only hurdle to overcome if researchers are to find the information that they need. There is also a need for appropriate infrastructure, training and access to national and regional research.

Programme for the Enhancement of Research Information (PERI)

Despite huge improvements in the last few years, there are still problems in many countries when it comes to obtaining appropriate equipment and sufficiently good connectivity. For example, within Makerere University, Uganda, the bandwidth

available to the library was increased from 512 Kbps to 1.5 Mbps in 2002. This is a significant step, but it is still insufficient to meet their needs for a university with over 20,000 students. This improvement was driven by the availability of online resources provided at the university through PERI, although PERI does not itself provide support for infrastructure (Mr Mukunda, Senior Librarian, Makerere, personal communication, 2002).

Although the younger generation are quickly becoming proficient in using IT (as elsewhere in the world), in many places there is a lack of skills in utilizing scholarly online resources. In order to tackle this, PERI provides training in using and managing online resources – particularly aimed at librarians and information professionals so they can provide guidance and support to the research community. Over 55 in-country workshops have now been facilitated, training more than 1000 people from over 250 institutions (see: www.inasp.info/training).

In the initial stages, a large range of content was available for selection by libraries, so that users could become familiar with the broadest possible range of online resources. Exposure to the different packages was intended to enable librarians and researchers to make informed collection development decisions – selecting the most useful and relevant resources for the research being undertaken within their country. Both INASP and the research and library communities are working towards a goal of sustainable access, and the ability to select which information resources to retain is a key element of this process.

International versus national publications

Content from 16 information providers (including several aggregators) is now available through PERI, and it has been interesting to note that users have shown distinct preferences for particular resources – not always the same between countries.

The preferences could reflect normal human behaviour – returning to known and trusted resources, particularly when there is little free time (or a slow and expensive Internet connection). This is exhibited in searching behaviour, where the most common tool is now generally accepted to be the Google service rather than traditional indexing databases.⁶ However, preferential selection could

also be due to the relevance of information, with specific publications providing information pertinent to the questions posed, and to the culture and experience of the reader. Not all that is published in the West is relevant or applicable to developing countries. This is perhaps most obvious in the area of medicine, where certain conditions may not be discussed within Western journals, and prescribed treatments may be unavailable.⁷

Reliance on information created and published by different countries may also bias the work and attitudes of researchers, as it is created within a different culture and may represent attitudes and opinions they do not share. There may also be political considerations that bias information.

A report published by the Department for International Development (DFID) in 1999 on the use of African-published journals in African universities⁸ highlights some of the issues in obtaining relevant information within Africa. Of note is the fact that African journals were considered important for academic work and as complementary to international journals. Part of their importance was attributed to their relevance within the African environment and conditions. However, discovering and obtaining African journals was a major barrier to use. International journals – even at this time when many were unavailable – were more readily identified due to the availability of comprehensive indexing services. Also, due to lack of resources or skills, some African journals published late or infrequently and there could be difficulty in obtaining copies.

International resources are now more readily available and, given the findings of the DFID report, they must pose an increased threat to the indigenous publications. A recent survey undertaken by INASP found over 20 initiatives to support access to international scholarly information in developing Africa alone (Gwynn, unpublished). In addition to these, the Internet contains a wealth of free information – from open access journals to free news pages. So, not only is the information easy to retrieve (assuming Internet access), but also available at no cost. Paying for a print subscription to an unreliably-published journal becomes less attractive.

There is also the position of authors to consider in this environment. Authors from any country in the world need the greatest visibility for their work, to give their work credibility and assist their

careers. Much excellent work created in Africa is published in Western journals which reward the author with international visibility and credibility – but which may make their work unavailable to peers from their own region or country. Free online availability of international journals has improved this situation for those researchers whose work is attractive to Western journals. However, in the longer term, the less visible African journals become, compared to Western journals (because they are not free and not online), the less attractive they may become to authors, and the more unsustainable they will be. There will always be a body of work authored by African researchers and academics that will not be suitable for publication in Western journals (usually due to the subject matter). If the African journals fail, where will this material be published?

Publishing support projects for the developing world

To compete in the online publishing market requires skills and resources that many African journals simply do not have: the Western commercial publishing model is only rarely found in sub-Saharan Africa. Recognizing this, several initiatives have been introduced to assist local publications to compete in the electronic environment.

Bioline (www.bioline.org.br) is a collaborative initiative of the University of Toronto Libraries, Canada (management office), the Reference Center on Environmental Information, Brazil (host computer and software development) and Bioline/UK (liaison). It provides a platform for journals to publish their full text and now has over 30 journals on its site. The initiative provides full support for the participating journals and promotes open access as a way to increase discovery and citation of the journal content – and through this to assist sustainability. This service works with journals from many different developing countries, to improve their visibility and to support their online publishing activities.

Other initiatives provide support for journals to publish on commercial web sites. These include the University of Michigan African e-journals project, which has assisted one African journal to place its content with Project MUSE (<http://muse.jhu.edu>) – an access-controlled

package of journals, which should guarantee some revenue to the journal. Also, INASP have helped six journals to publish their content with Ingenta (www.ingentaselect.com), where their content is available free to print subscribers, but is otherwise access-controlled. INASP also support two journals in publishing online through Extenza (www.extenza.com) and taking part in the ALPSP Learned Journals Collection, so they will have some guaranteed revenue, and can also experiment with selling online subscriptions and document delivery. It is still too early to evaluate whether these journals will gain additional revenue from this type of online hosting, but a review is due in 2005.

African Journals OnLine (AJOL)

In addition to these initiatives supporting full-text online publishing, the African Journals OnLine (AJOL) service was launched in 1998 to provide visibility through the provision of an indexing and alerting service, specifically to promote discovery of African research around the world.

The original objectives were to make African-published research more widely known, to strengthen the African publishing sector through encouraging print subscription and selling document delivery, and to assess the impact of the Internet on these journals. A review of the service undertaken in 2000, at the end of the original two-year pilot, found it had succeeded in increasing visibility and strongly advocated that it should continue and include more journals. A second review was undertaken in 2002 and the findings reiterated the value of the service to participating journals – with reports of increasing article submission from international authors. However, the service had failed to make the journals more financially sustainable by encouraging subscription. There may be many reasons for this, but it is likely to be a combination of financial constraints within libraries and the perception of low quality that is often associated with developing country publications.

To obtain new subscriptions for any journal is becoming increasingly difficult in the current environment, as many libraries lack funds to increase their holdings. For an African journal of unknown quality and perhaps an unreliable

publishing record to gain new subscriptions in this market is an even greater challenge.

However, the benefits of participating in the service appear to have outweighed the lack of subscription revenue and many journal editors understand the constraints on obtaining subscriptions. AJOL participation has continued to grow and there are currently 182 titles from 21 countries, with over 10,000 articles. The service provides article abstracts (free access) and a document delivery service (free to researchers from developing countries). The statistics associated with the service can be found in Table 1, and show increasing usage – which has been enhanced since 2002 by promotion with the other resources of PERI.

Use of AJOL is worldwide, but the highest use is from within Africa (based on correspondence and document delivery requests). Positive comments have been received from users and journal editors. Most journals are now aware of the need to publish electronically as they themselves have started to use the Internet to progress and disseminate their own research. There is increasing discussion about how they can move their full content online and how this will change the journals.

Following the 2002 review of AJOL, respondents commented that the service needed updating – in particular the searching mechanism and browsing interface. A new web site and database were launched in March 2003. In addition to including a sophisticated search engine, two other features have been added.

The first feature is an e-mail alerting service, whereby users can sign up for journals of their choice and receive a notification e-mail whenever a new issue is published. When journals publish infrequently, it is important to update users and bring them back to the online journal. The success of this was illustrated when an article request for *African Sociological Review/Revue Africaine de Sociologie* was received (and fulfilled) within one hour of publication on AJOL.

The second feature was added in response to the queries INASP received from the AJOL journals regarding full-text online publishing. Many journals want to publish online but are not able to launch and run their own sites. To enable experimentation with online publishing, AJOL has been developed to allow individual publishers to load their own content directly onto the online site, either as abstract only (as now) or as full text.

The service is all open access, however it is recognized that some journals do not want to publish their full-text content open access at present. Therefore they are able to decide what full text to post onto the site: perhaps sample articles, archive issues, editorials, or the current issue. It is hoped that this will give them the opportunity to experiment and monitor any impact of putting articles online so they can decide how to develop in the online environment.

The software used to develop the new AJOL site is called Open Journals System, an open source software developed in Canada by the Public Knowledge Project (PKP: www.pkp.ubc.ca), which is already available for individual journals to use for their own publishing management (it can handle the full publishing process from submission to online publication) and PKP are already working with some African titles. It is open archive-compliant, so data can be exported, imported and made fully searchable on other systems.

This new service has been welcomed enthusiastically by the AJOL journal community and by many users who have reported their satisfaction in being able to locate articles easily. One publisher is already successfully loading its own content (abstracts only), but it is too early to evaluate how many journals will take advantage of this facility.

A final objective of the AJOL initiative, and one that was set at its initial launch, is for management of the service to be moved to Africa. At the moment, it is entirely managed by INASP in Oxford

	2000	2001	2002	2003	1 January – 1 May 2004
Hits on web site each year	6,000	44,064	83,500	121,068	–
Number of people registering with AJOL each year	1,151	1,268	2,415	3,877	1,495
Document delivery requests	N/A	9	261	630	432

Table 1. Annual AJOL statistics (NB these figures are not cumulative)

and although the opinions of the AJOL editors are used to continually shape the service, it is important that full ownership should be transferred. It is also important that the service becomes self-sustaining – at the moment it relies entirely on external funding. During 2004, organizations will be invited to tender for management of the service and it is hoped that transfer of ownership can be made before the end of 2005.

Conclusion

Access to information should not be the definitive goal – the aim should be access to relevant information. The Internet offers unprecedented opportunities to locate content, but it is important that it serves a balanced sharing of information – so that indigenous knowledge is promoted, made available to all and, most importantly, not lost to future generations.

References

1. Tenopir, C. et al., Scientists' use of journals: Differences (and similarities) between print and electronic. In *National Online 2001: Proceedings* 469–482, 2001, Medford, New Jersey, Information Today.
2. Smart, P., E-journals: Developing country access survey. *Learned Publishing*, 2003, 16, 143–149.
3. HINARI:
<http://www.healthinternetwork.org/src/eligibility.php> (accessed 10 May 2004)
4. PERI:
<http://www.insp.info/peri> (accessed 10 May 2004)
5. Priestley, C., An integrated response to the needs of developing countries. *Serials*, 2003, 16(1) 13–18.
6. Lawlor, B., *Shifting Power: a new information infrastructure*. Presentation given at the ICSTI winter meeting, January 2004.
7. Yamey, G., Africa's visionary editor, *British Medical Journal*, 2003, (327) 832.
8. Alemna, A.A., Chifwepa, V. and Rosenberg, D., *African Journals: an evaluation of the use made of African-published journals in African universities*. Serial No.36. 1999, London, UK, DFID.

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