

Developing World Access to Essential Information for Life



Path to 2015



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Acknowledgements

AGORA, HINARI and OARE are voluntary partnerships where the publishers, FAO, WHO, UNEP, Cornell and Yale Universities give of their content, their time and staff resources. The following organisations have generously provided funds and assistance to support user training and essential technical development:

The Elsevier Foundation
William and Flora Hewlett Foundation
Department for International Development (DFID), UK
John D. and Catherine T. MacArthur Foundation
Microsoft Corporation
The Rockefeller Foundation
UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR)
Technical Centre for Agricultural and Rural Cooperation (CTA)
United States Agency for International Development (USAID)

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Foreword

Researchers, policy-makers, clinicians, students and teachers working in developing countries have historically suffered from a lack of access to up-to-date scientific literature, essential for furthering studies, discovering evidence, sharing findings, and informing teaching, practice and public policy. Most university libraries and research organisations in low-income countries do not have the budgets to pay for important peer-reviewed journals, a resource fundamental to the work undertaken in these very institutions. In a survey conducted by the World Health Organization (WHO) in 2000, researchers and academics in developing countries ranked access to subscription based journals as one of their most pressing problems. In countries with annual incomes of US\$1000 and less per person, 56% of institutions surveyed had no current subscriptions to international journals.

In March 2001, representatives from the WHO met with senior staff from six of the largest international scientific publishers to explore ways of closing this critical information gap. At that meeting, a public-private partnership was born which would provide those working within institutions in the world's poorest countries with this essential access.

Since 2002, three programmes have been closing this information gap, leveraging proven information and communication technologies, and benefiting from the digitisation of vast quantities of proprietary scientific literature.

These programmes are:

HINARI (HEALTH INTERNETWORK INITIATIVE) www.who.int/hinari, launched in 2002 under the leadership of the World Health Organization (WHO);

AGORA (ACCESS TO GLOBAL ONLINE RESEARCH IN AGRICULTURE) www.aginternetwork.org, initiated in 2003 and led by the Food and Agriculture Organization (FAO);

OARE (ONLINE ACCESS TO RESEARCH IN THE ENVIRONMENT) www.oaresciences.org, developed under the leadership of the United Nations Environment Programme (UNEP) and launched 2006.

Their collective catalogue of 4500 journal titles, with an estimated annual value of US\$3 million includes approximately 75% of the world's most influential and widely cited scientific publications, representing the intellectual foundation of the health, agricultural and environmental science communities. The key aims of these programmes are to provide access to scientific scholarship in low-income countries, to improve the quality of research conducted there, and to gain wider publication of that research to the benefit of all. Essential to all of this is training in information literacy and research skills.

Major stakeholders of this important international public-private partnership involve the three United Nations agencies noted above, more than 100 of the world's major science, technology and medical (STM) journal publishers (including not for profit scientific organisations, university presses and commercial companies), and both Cornell and

Yale Universities.

REVIEWING THE PROGRAMMES

An independent review of HINARI and AGORA (OARE was not launched until October 2006) in early 2006 looked at how the programmes were being used, and identified problems which might be limiting their value. It made recommendations for improvement and for the longer term future. Two main problems appeared to be facing users: first, the need for more training in how to exploit the full potential of AGORA and HINARI and other web based research information resources; secondly, the deteriorating SafeWeb user authentication system sometimes made accessing the programmes very difficult for users. A concurrent independent review looked at the infrastructure of the partnership, identifying strengths and weaknesses and recommending improvements to increase the effectiveness of the programmes and of the partnership itself.

STRATEGIC PLAN AND THE MILLENNIUM DEVELOPMENT GOALS

The Usage Review recommended that HINARI and AGORA be linked to the UN's Millennium Development Goals, and the Infrastructure (Partners) Review endorsed this recommendation, subject to the partners agreeing a Strategic Plan to guide the operation and development of the programmes during the time span of the MDGs, which run until 2015. Achieving the MDGs is premised on sustainable improvements in agriculture, environmental management and health brought about by high-quality research, education, and informed government policies—all of which are linked to access to current knowledge in the biological and social sciences. The authentication problems identified in both Reviews have recently been resolved with the pro bono assistance of Microsoft, which is joining the programmes as a Technical Partner. The accompanying Strategic Plan has been agreed by the partners, and should guide HINARI, AGORA and its recent sister programme, OARE, to help researchers, academics, students, clinicians, agriculturalists, environmental scientists, economists and others in their work to improve research in health, agriculture and the environment to the benefit of all.

July 2007



Executive Summary

AGORA, HINARI and OARE are public-private partnerships bringing together more than 100 publishers, three UN organisations, two major universities, and other partners, with the single goal of improving access to and training on essential information for life where it is most needed and least affordable.

All partners involved in the programmes have committed to continuing them at least until 2015, to tie in with the timeline of the United Nations Millennium Development Goals (MDGs)

The programmes include primary research from 4500 journals, databases, books, reference works online, including content in 15 languages.

The three online portals include subject-specific content necessary to improve conditions in developing countries, from health, to food security, to the environment, all core to the MDGs. The research available in HINARI, AGORA and OARE is relevant to the achievements of Goals 1, 4, 5, 6, 7 and 8.

Access is provided free or at very low cost to researchers, educators, policy-makers, librarians and students in almost 4000 publicly funded institutions in 114 of the world's poorest countries.

Access is accompanied by training in information literacy and research skills, core to the programmes, their effectiveness, and long-term sustainability.

Local researchers now have the information tools to find local solutions to local problems through access to the world's most advanced and up-to-date scientific literature.

Evidence shows that researchers in developing countries are now better able to participate in the advancement of the global scientific community through the 'level playing field' offered by the programmes, leading to increased publication in international journals, more indigenous publishing, and more international research collaborations

Usage has been growing steadily, with more institutions registering every week.

Two recent programme reviews identified some key challenges and barriers to use, including authentication problems, bandwidth limitations, poor computer and internet access in some countries, cultural differences, language barriers, lack of awareness and training needs.

Many of these challenges are addressed in the Strategic Plan: Path to 2015. Indeed the authentication problem has already been resolved through the pro bono help of the first technology partner, Microsoft Corporation. More strategic partnerships will be core to taking the programmes forward and ensuring sustainability.

Additional funding is needed to increase training capacity to ensure the ongoing effectiveness of the programmes and a long-term legacy of home-grown research in developing countries.

"I appreciate the gesture by publishers to avail their publications on **HINARI/AGORA**. This is not only giving to poor countries but has a long term pay-off. As we discover more journals that will publish our work, publication and research will increase. They will see more articles from Africa. As **HINARI/AGORA** reaches further afield and new generations of users are produced, people will get used to this and subscribe in future. When I left medical school many years ago, I only knew 10 or so medical journals (the big ones where it is difficult to get any publication into). This gave me the impression that publishing research is an undertaking too far above me. Now as we see more journals, we can have ideas of having a research career. I hope this is accompanied by more North-South, South-South collaborations."

*Dr Stephen Gichulu Lecturer,
University of Nairobi, Department. of Ophthalmology*

"A few years ago we carried out an experiment for surgical operations of some livestock animals and as we thought it was excellent research, we wrote a manuscript on the findings for publication in a journal. However, after a review of the manuscript it came back with the comment that the drug which we used as anaesthesia for the animals had been banned about 5 years earlier. Had we had access to up-to-date published literature through such resources like **AGORA** this would not have happened."

*Prof. Shehu U. Abdulahi, Vice-Chancellor,
Ahmadu Bello University, Zaria, Nigeria*



The Path to 2015: A Strategic Plan for HINARI, AGORA and OARE

AGORA, HINARE and OARE

HINARI¹, AGORA², and OARE³ have developed separately and in cooperation since the earliest days of the seeds of the idea for HINARI in 2000. In the seven years since, the three programmes have matured and developed some basic forms of collaboration and interactions. In 2006, reviews were commissioned to identify successes, impacts, and challenges for their future. At the joint Programme Partners' meeting in mid-2006, the stakeholders working with AGORA, HINARI and OARE committed to continue them at least until 2015, and agreed to a strategic planning process to identify the desired roadmap for the next 9 years. This strategic plan is informed by a desire to build on the successes so far, to continue to expand the programmes' positive impacts, to establish a secure base to carry us through to 2015, and to identify an organizational structure to enable us to operate more efficiently while retaining the informality and altruistic enthusiasm that has carried us so far so quickly.

"It would be difficult to find a student who did not use HINARI as the principle resource for his research. Virtually all graduate theses use material derived from HINARI searches. The same is true for post-graduate doctoral dissertations"

Universite Cheikh Anta Diop de Dakar, Senegal

1. MISSION

To provide and support online access to research information in health, agriculture and the environment for those in the world least able to afford it.

2. VISION

In a world that is increasingly digital, the programmes seek to enhance research by connecting academics, researchers and policy makers in developing countries with online research and scholarly information. The goal of this partnership is to improve the basic quality of life and achieve sustainable development in these countries in the context of the 2015 targets associated with the Millennium Development Goals.

We provide:

- A coordinated environment for information discovery and learning;
- A gateway to high quality research information at no or nominal cost;
- Identification, validation, and authentication of eligible institutions;
- Training in the use of information resources.

3. THE PROGRAMMES TODAY

3.1 Brief History

The AGORA, HINARI, AGORA and OARE initiatives are public-private partnerships in the truest sense of the term. Launched with journals from six of the largest scientific, technical and medical publishers, now more than 100 have joined forces with the World Health Organization (WHO), Food and Agriculture Organization (FAO), United Nations Environment Programme (UNEP), the International Association of Scientific, Technical and Medical Publishers (STM). Yale University, Cornell University, Rockefeller Foundation, DFID⁴, TDR⁵, the Hewlett and Macarthur Foundations and other partners to provide free or low-cost access to peer-reviewed academic and scholarly journals within institutions and libraries in the developing world.

WHO's HINARI was launched in January 2002 with 1500 journals, and as of May 2007 provides access to more than 3700 biomedical and related social science journals from more than 100 publishers to WHO-approved academic institutes in the developing world. FAO's AGORA was launched in October 2003 and as of May 2007 provides access to nearly 1000 agriculture, food, fisheries and related sciences journals from 39 publishers to FAO-approved institutes in the developing world. UNEP, in partnership with the Yale School of Forestry and Environmental Studies, launched OARE in October 2006, offering 1200 journals and other resources in environmental science literature from 46 publishers to UNEP-approved institutions in the same group of countries. Most of the world's leading scientific journal publishers participate in the programmes, and the total value of access to the three collections is estimated to be in excess of US\$3,000,000 – resource available to few institutions in the developed countries.

The three sister programmes share ICT infrastructure (authentication system, website architecture, etc.) and coordinate closely on administration, training, promotion, public relations, evaluation and other programme activities. In HINARI and OARE, Yale University Library plays a significant role in both development and back office processes, as does Cornell University's Mann Library in AGORA. Since 2004 Blackwell Publishing has provided professional marketing and promotion support for all three programmes.

For Band 1 of all three initiatives, countries with a GNI per capita of under \$1000 are entitled to access the journals for free. For Band 2 (active for HINARI and AGORA, and due to launch for OARE in late 2007), most countries with a GNI per capita between \$1000 and \$3000 are entitled to pay \$1000 per institution/per year for access to the journals. These funds are collected and used by the WHO and FAO (UNEP in 2008) for training on e-journal usage. The Information Training and Outreach Centre for Africa (ITOCA)⁶, founded in Zimbabwe and now located in Pretoria, South Africa, acts as a training hub and user support centre for all three initiatives in sub-Saharan Africa.

1 Health InterNetwork Access to Research Initiative - www.who.int/hinari

2 Access to Global Online Research in Agriculture - www.aginternetwork.org

3 Online Access to Research in the Environment - www.oaresciences.org

4 Department for International Development (United Kingdom)

5 UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases.

3.2 Development environment

Political, economic and social aspects

The Millennium Development Goals provide the development framework for governments and the international community. Many complex economic factors at the global and national levels will affect the progress in achieving these goals, and it is anticipated that there will still be a substantial number of nations that will continue to meet the economic thresholds for eligibility in the programmes until at least 2015. Unstable political environments, many with associated conflicts, and political mergers (e.g. European Union expansion) are affecting many eligible countries. On the social side, society is showing an increasing awareness of and reliance on digital information, partly as a feature of increasing globalization, and this is being reflected in even the poorest eligible countries. Nonetheless, a sizeable fraction of the population in eligible institutions still lack the awareness and training to make proper use of information technology to access the programmes and benefit from the content they offer.

Technological aspects

Increasing demand for access to the internet, both in numbers of people and frequency of use, is putting pressure on the already weak telecommunications infrastructure in the programmes' eligible countries. In addition, new generations of web tools have increasingly heavy bandwidth requirements. Furthermore, poorer countries are correspondingly less able to cope with telecommunications disruptions due to emergencies and disasters. So, poorer countries' efforts to improve infrastructure are not likely to keep pace with the increasing demand, and connectivity will remain the biggest constraint to access to the programmes.

On the positive side, continuing advances in scholarly research, and changes in the way information is produced, stored and accessed, are combining to change the nature of knowledge delivery. More publishers are making their content available in digital form on the web, and will be looking to join the programmes. As the amount of data and information increases, researchers, professionals, and policy makers will be using a vastly more sophisticated set of tools to identify where new opportunities lie. Sophisticated discovery systems will lead scholars to patterns and connections in massed data, speeding up the cycle of new knowledge production.

Literature Access

A growing number of organizations offer services related to capacity building and to technologies that facilitate information access or enhance connectivity in poorer countries or for specific target groups, and many of these organizations present opportunities for cooperation with the three programmes. As more organizations enter this area for various reasons, care will be needed in deciding whether the three programmes can more easily accomplish a task themselves, or whether they should

partner with other organizations on particular tasks to apply their resources more effectively.

4. REVIEWING HINARI AND AGORATHE REVIEWS

In 2005, the partners commissioned two reviews: Usage Review of HINARI and AGORA by John Scott of the Center for Public Service Communications, Arlington, Virginia, USA, and HINARI/AGORA Infrastructure (Partners) Review by Mark Ware, of Mark Ware Consulting, Bristol, UK. Largely funded by a grant from the UK's Department for International Development (DFID), both reviews were conducted between January and June 2006. The sections below summarise the major conclusions of the two reviews and their recommendations, some of which have already been addressed, while others are yet to be addressed.

4.1 Usage Review

"In summary, it is the hope and desire on the part of HINARI and AGORA users (the overwhelming, unanimous hope, I can honestly say) that these resources will be sustained."

John Scott, Usage Review of HINARI and AGORA, p.5, July 2006

The review comprised extensive face to face interviews with researchers and information professionals in 12 African, Asian and Latin American countries as well as quantitative email and web-based surveys. Although there were considerable problems in some countries in both the cost and efficiency of internet access, combined with difficulties inherent to the HINARI and AGORA user authentication system, the Usage Review found that the programmes are greatly appreciated and increasingly relied upon in the beneficiary institutions.

Usage Review: Key Recommendations

- The major development agencies of donor/partner governments should be made more aware of HINARI and AGORA. ...The (major) foundations and similar organizations should also know about HINARI and AGORA These organizations represent ...possible sources of funding for HINARI and AGORA training programmes.
- Resources should be found to dramatically increase the possibilities for training users in how to navigate HINARI and AGORA (and, more generally, how to use the Internet for education and research purposes).
- AGORA and HINARI could do more to promote the interdisciplinary nature of the journals to which they provide access. It is relatively straightforward now for researchers specializing in a particular disease to find information on that disease, but many of these researchers are not aware that there may be important relevant information to be found in economics, ethics, legal journals, or other subject categories.

⁶ www.itoca.org

⁷ Some organizations offering literature access services are listed at <http://www.library.yale.edu/~llicense/develop.shtml>

- One of the most important tasks to be completed so that usage of HINARI and AGORA can be significantly increased is ...to resolve issues surrounding authentication.⁸
- HINARI and AGORA should be linked to the Millennium Development Goals and extended to the MDG time span.⁹

4.2 Infrastructure (Partners') Review

"There is no doubt that just about everyone involved sees HINARI and AGORA as hugely successful initiatives, while recognising there is a lot more that can be done. Many spoke of their pride at having been involved, and the commitment of the individuals is visible. Some of the publishers spoke of their pride at being one of the founding publishers, while another said that the creation of HINARI would be seen as an historic event."

Mark Ware, HINARI / AGORA Infrastructure (Partners) Review, p 63, June 2006

The Infrastructure (Partners') Review consisted of extensive interviews with managers at many of the large publisher partners, at the UN agencies, Yale and Cornell University libraries, and at DFID. Email surveys were sent to all remaining participating publishers. The Review recorded the view of a number of interviewees that HINARI and AGORA be extended to the time frame of the UN's Millennium Development Goals.

The Review confirmed that the motivations of the various partners to participate in the programmes are strong. For the UN agencies, the programmes address core parts of their strategic missions, they relate to wider goals such as the Millennium Development Goals, and they are seen as models of public-private partnerships. For Yale and Cornell Universities, with missions to promote scientific discovery, internationalism is a deeply-rooted part of their culture. For the participating publishers, the primary motivation of the large majority is essentially altruistic. In general, the publishers also expect public relations gains, given that the programmes are popular with societies, authors and editors, and participation demonstrates that publishers can give something back to the scientific community. For the International Association of STM Publishers, the benefits are primarily those of its publisher members, and it also sees involvement in this multi-publisher initiative as a natural role for the Association.

Infrastructure (Partners') Review: Key Recommendations

- A set of effectiveness measures should be developed as part of a wider process of business planning.

- The level of dedicated resources needs to be increased so that the programmes are less reliant on volunteer labour.
- A managed project should be established for the replacement of the SafeWeb authentication system, with a project team, with an explicit project leader, a project plan and a timetable.¹⁰
- There is potential benefit in the establishment of a single 'back office' to focus on operational issues. This might be achieved in a number of different ways.¹¹
- Investment in additional training, outreach and support would likely have a significant impact on usage.
- The programmes should develop a business plan.
- Dedicated separate programmes should continue to exist at the point of delivery.
- The programmes should rely on multiple sources of funding to reduce risk.
- Governance: as a minimum, a simple constitution providing for a board of directors (which could be elected, or ex-officio, or a combination), reporting requirements, frequency of meetings should be adopted.
- Some level of grant funding seems likely. Because of this, we [Mark Ware] recommend the establishment of single organisation that funders could deal with; a not-for-profit entity to be funded; the development of business plans and Key Performance Indicators; introduction of appropriate governance (e.g. board of trustees/directors, constitution).

5. STRATEGIC OBJECTIVES

HINARI went 'live' in January 2002 followed by AGORA in October 2003. The programmes, in spite of inevitable launch and development difficulties, are of increasing value to users in the beneficiary countries and are fulfilling the missions of the contributing partners. The Usage and Infrastructure Reviews conducted in 2006 confirmed this. Accepting the key recommendations of the Reviews, the partners have agreed on three key strategic objectives.

- Assure the continued delivery of the programmes.
- Expand the reach to users as yet unaware of these huge resources and overcome barriers to use.
- Involve appropriate new partners to increase the range of content, to secure the programmes technically and to assist in training users and information specialists to maximise the potential of all three programmes.

⁸ Following the presentation of the Usage Review to the partnership, this problem has been addressed. A new authentication system has been developed by Microsoft, in the context of their joining the partnership. Full deployment of this new system is expected in the 2nd quarter 2007.

⁹ In accepting this recommendation, the Partners include the OARE programme.

¹⁰ This has been accomplished.

¹¹ This has been accomplished, to a great extent, for HINARI and OARE.

¹² (iv) and (v) are already in development, and will be functional in 2007.

5.1 Assuring the programme delivery (with core resources)

Partners and Functions

The following organizations comprise the core partners in the programmes (2007):

- **Content Providers:** Individual Publishers (of varying types and levels of engagement beyond content contribution), International Association of Scientific Technical and Medical (STM) Publishers
- **Programme Coordinators:** Food and Agriculture Organization (FAO), United Nations Environment Programme (UNEP), World Health Organization (WHO).
- **University Partners:** Cornell University (Mann Library), Yale University (University Library and School of Forestry and Environmental Studies)
- **Service and Training:** National Library of Medicine (NLM), Special Programme for Research and Training in Tropical Diseases (TDR)
- **Technical:** Microsoft Corporation
- **Funding:** Rockefeller Foundation, Department for International Development (UK); The Hewlett Foundation; The Macarthur Foundation; The Elsevier Foundation.

The core functions for the three programmes are distributed amongst the partners, namely:

- user administration, communication, and support;
- technical systems (development and maintenance of authentication, registration, portal software systems, and IT infrastructure);
- content acquisition and management for the three programmes (identification of new publications and negotiation with publishers);
- advocacy, public relations, marketing and communication;
- finance and accounting;
- resource mobilization (internal);
- monitoring and evaluation.

Goals and Objectives

Goal A) Seamless, uninterrupted access to expanding collections of research information

In order to secure the programmes' technical architecture, staffing, and workflows...

Objective A.1: ensure current and future systems for authentication, including engagement of new technology partners. Immediate priorities will be to develop and maintain a stable and sustainable technology platform (i) to ensure authentication of valid users, (ii) to permit monitoring of usage, (iii) to support publisher-specific access restrictions, and (iv) to optimize bandwidth

requirements. Future prospects may include increased flexibility of access control with option(s) other than IP addresses and offering access to content via mobile devices or for offline use.

Objective A.2: ensure adequate robustness and flexibility in a shared portal architecture to guarantee efficient program-specific user interaction and content management. Immediate priorities will include (i) improvement of 'intelligent' resource identification and navigational tools, (ii) enhancement of downloading of articles, (iii) integrating cross-programme journals database and alerting system, (iv) improvements in information for users on what they can actually search and access, and (v) customization of country 'exclusions'. 12

Objective A.3: structure the programmes' user support work to promote user knowledge of available content and rapid response to access difficulties, and to enhance web-site help and training resources (portals and extranet). Immediate priorities will include unification of registration database across the programmes with a single ID for each user, and tracking and follow-up of 'lapses' to understand why they lapse and to encourage use.

Objective A.4: explore expansion of content (e.g. journals, bibliographic databases, reference works, online books etc) available through the three existing subject portals, taking care to tailor any expansion to the capacity to incorporate it without overstressing our architecture, staffing or organization structure. We do not envisage expanding into new subject areas. Immediate priorities will include increasing the numbers of journals accessible (especially in AGORA and OARE), with emphasis on the smaller learned societies, and improving accuracy of the journal listings on the programmes' web sites. New publishers will be encouraged to offer their content, particularly in Band 1, to the widest number of countries. The programmes will welcome other types of content (e.g. dictionaries, text books, directories, atlases, reference works).

Goal B) Leverage partnerships

In order to engage partners at international level...

Objective B.1: inform partners about the current status of the programmes. Immediate outputs will include development of a partners' extranet to provide a communication interface for the programmes, with features such as user statistics and a bulletin board.

Objective B.2: cultivate partners that can make contributions in the form of content (*new publishers*) and information technologies, specifically technologies for authentication, searching and linking, and cache systems¹³. Outputs will include identification of specific needs and gaps where partners are required, establishment of new partnerships in relation to the priorities identified in the strategic plan, and the development of a set of guidelines for partnering to guide choices.

13 Authentication (Microsoft); Cache systems (Microsoft, Lund University); Search and linking (CrossRef, SFX, ISI, Google, Microsoft).

Goal C) Measuring performance and impact of the three programmes

In order to understand use ...

Objective C.1: develop baseline data in 2007 against which future evaluations can be assessed, and measure and report on various ongoing key measures/processes of performance and impact, leading to a 'second stage' evaluation in 2010. The effectiveness of the three programmes will be compared and contrasted, and comparisons will be made with other literature access programmes. The indicators to be used in the evaluation will be determined¹⁴.

Objective C.2: proactively seek feedback from users on the nature and scope of the programmes' services that amongst other issues would identify reasons for non-use.

Objective C.3: collect an evidence-base of narratives about use/impact of the programmes, mobilizing the experiential knowledge of users.

Objective C.4: repeat full Usage and Infrastructure Reviews in 2010.

5.2 Expanding the programmes' reach and overcoming barriers to use

Partners and Functions

The following organizations comprise the principal partners in expanding the reach of the programmes and overcoming barriers to use:

- Technical networks and programmes of the three sponsoring UN agencies, such as the Special Programme for Research and Training in Tropical Diseases (TDR);
- Specialist service providers such as the Information Training and Outreach Centre Africa (ITOCA), and similar organizations in other regions;
- Bilateral and multilateral agencies, such as DFID, and charitable foundations such as Rockefeller, MacArthur, and Hewlett.

Goals and Objectives

Goal D) Marketing, publicity and promotion of AGORA-HINARI-OARE

In order to raise awareness, build usage and engage stakeholders ...

Objective D.1: increase awareness and usage amongst developing world librarians and scientists, university faculty and development practitioners so that all those eligible to benefit from the free availability have activated access and recorded increasing use. Examples of outreach include conferences, electronic newsletters, user

guides, posters, leaflets, and multi-language materials.

Objective D.2: encourage participating journals to promote their availability in the programmes through editorial features and advertisements.

Objective D.3: encourage more society, non-English-language, developing country, database and e-book publishers to join such that all medical, agricultural, and environmental literature is available at low cost or free in the developing world.

Objective D.4: encourage participation from publishers in the developing countries within the context of their own business models.

Objective D.5: encourage developing country government departments to improve their commitment to scientific research and provide greater financial and political support for developing the information infrastructure such that the journals available through AGORA-HINARI-OARE are easier and less expensive to access.

Objective D.6: increase awareness amongst 'developed world' librarians and scientists, university faculty and development practitioners so that AGORA, HINARI and OARE are recognised and supported.

Objective D.7: increase the coverage of the programmes by the international media, including publications in eligible countries.

Objective D.8: raise the awareness of AGORA, HINARI and OARE in the donor community to secure funding for training and other core activities.

Goal E) Develop trusted education and support services that promote information literacy, improve research outcomes, and enhance information use in higher education and research settings

In order to empower users ...

Objective E.1: advance new outreach activities by the programmes and strategic partners to mobilize user communities (i.e. librarians, academics, researchers, doctors, nurses, policy makers, development practitioners, etc) both within nations and amongst professional communities of users to act as a peer-assist network as well as a collective lobby. These could have a physical dimension, through conferences and face-to-face events, but the virtual dimension will be the principal focus, with virtual platforms and tools developed through which communities can interact by email or on the web. Lastly, training will be provided in (i) creating user communities, and (ii) developing networks of the user groups - by country, region, language, subject.

Objective E.2: promote the development of a culture of information use and increase user capacities to benefit from the content made available through the programmes.

¹⁴ Indicators will be based on the following set of suggested candidates: Portal accuracy; Service response; Numbers of downloads of pdf documents, analysed by topic, institution, journal, by site, etc; Rates of uptake as proportion of potential users in an institute or country; Authorship rates; Rejection rates of journal papers; Rejection rates of grant applications; Actual number of grant approvals; Local citation patterns and rates related to AGORA, HINARI and OARE; Promotional activities; Indicators in relation to MDGs for health, food security, environment, and research; Library service and professional development via the programmes/partners.

There will be three major outputs. First, advocacy initiatives will be developed to reach out to ‘teachers’ (formal or informal mentors); resource ‘controllers’, governments; and most crucially to champions and ambassadors. It is worth noting that identifying the right champions able to influence the areas mentioned could be difficult as decisions on these issues are often taken beyond the ‘research’ sector where the three programmes are active. Second, direct links and collaborations between institutions and individuals will be enhanced, seeking ways to connect and influence policy and practice by mobilising the collective knowledge of networks. Finally, influential ‘champions’ at national and/or regional level will be identified and supported so that they can help guide and facilitate country activities (trainers, evaluators).

Objective E.3: develop means to support training for the programmes in the larger context of institutional and individual information literacy in educational institutions and other settings. There are two principal areas of output. Firstly, ‘compelling evidence’ for policymakers will be developed and disseminated, demonstrating that information literacy contributes to institutional goals, comprising case studies and good practice guidelines on how information literacy can help institutions to develop successful proposals and produce more publications, etc. Secondly, we will develop training and advocacy resources for incorporating information literacy training, including training for the programmes, into the medical, agricultural and environmental curriculum of participating educational institutions.

Goal F) Leverage partnerships

In order to engage partners at national level ...

Objective F.1 : ensure that access to scientific research online will be enabled through adequate financial commitment and provision of good ICT infrastructure for eligible institutions. Local strategic partnerships will include governments, the various representatives of UN agencies, thematic networks, development agencies funding research and institution building, telecoms commissions, and bandwidth consortia. Their contributions will be advocacy for the programmes, funding, training and capacity building, and support for IT infrastructure. Such partners will help significantly by integrating the programmes into their other activities. Outputs will include development of compelling messages supported by evidence, to be packaged in materials such as policy briefs etc.

5.3 Adding value to the programmes through external partners

Partners and Functions

Several organizations have already been identified as potential partners in ensuring that peripheral value is added to the programmes, including the International Network for the Advancement of Scientific Publications (INASP), International Federation of Library Associations (IFLA), and the Partnership for Higher Education in Africa, and other partners may be identified in the future.

Goals and Objectives Goal G): Leverage partnerships with organizations with shared interests

In order to engage collegial partner organizations ...

Objective G.1: foster dissemination and availability of scientific research from less developed countries by engaging scientific societies and local content providers, and by building capacities in scientific writing skills and techniques for local publishing. Strategic partnerships will include specialist resource organizations that are already active in promoting and facilitating availability of scientific information from local sources. Such partners will help significantly by integrating the programmes into their other activities. Outputs will include development of capacity building and training activities for institutions that are eligible for the programmes.

6. RELATIONSHIPS WITHIN THE PARTNERSHIP

Each of the three programmes, AGORA, HINARI and OARE, has its own mix of partners and activities, and resources for support of its activities. The programmes have so far had most unity of approach/vision in the guidelines for publisher engagement in each programme and in standardized offerings, such as the list of eligible countries. Each programme has its own staff to support registrations and user support, to develop each website, and to respond to general programme inquiries. In addition, each programme develops its own partnership balance to support its unique activities.

The nature of the unique subject matter covered by each programme necessitates specialized approaches to selecting content, subject assignments, and other relevant activities. In addition, each programme is organically embedded in its sponsoring UN institution(s) and any attempt to create efficiencies by merging very specific activities must be balanced against the resources and the sense of ‘ownership’ that are currently made available due to sponsorship of the Programmes by the FAO, UNEP and WHO.

Nevertheless, some activities are already carried out jointly to differing degrees, and the three programmes will continue exploring how much further it is appropriate to develop shared systems and services. Examples of activities currently shared to a greater or lesser degree include: Goal A (authentication, content maintenance, support and registration), Goal B (usage statistics), Goal C (marketing and outreach), Goal D (monitoring and evaluation), and Goal E (training and user empowerment activities).

7. STRUCTURES AND MECHANISMS

There are no formal or contractual relationships between any of the groups of partners involved in AGORA, HINARI and OARE; many see this as contributing significantly to the success of the Programmes so far. For this reason, the general approach to change in governance and management might best be evolution not revolution. Governance should be as simple and as efficiently

structured as possible focused on maximizing current benefits and helping to build and leverage new benefits. Ideally, the partners would want to continue the present collegial arrangement where progress is monitored and future developments are agreed at informal annual partners meetings, which have always been well attended by the major players. The decision at the July 2006 meeting by the publishers and the UN Agency partners to continue the programmes at least to cover the time span of the UN's MDGs inevitably raises questions of governance, finance and administration to ensure the programmes succeed in their goals over the period to 2015. So, the ideal approach is to strengthen the present arrangement with additional governance groups.

GENERAL PARTNERS MEETINGS

In the absence of any formal instruments of governance, the highest level structure has been the partners' **General Meetings**, with appropriate representation of all partners as well as user groups. Decisions on major policy issues are taken at these meetings. The Meeting may designate temporary groups to address particular strategic and tactical issues. The General Meeting will continue to be the final governing and authoritative body of the programmes.

In addition to the General Partners Meetings, the following governance and administrative structures are recommended.

EXECUTIVE BOARD

A small **Executive Board** representing the major partners would make ongoing operational decisions between annual general meetings. This Board oversees the implementation of decisions made by the General Partners Meetings and can make operational decisions within guidelines agreed by that Meeting.

ADVISORY COUNCIL

An **Advisory Council** representing international figures in development, science, publishing, libraries, intergovernmental agencies, and funding organisations, will offer guidance on major policy issues to the programmes. Equally important on the Advisory Council will be participation drawn from the user community: researchers, clinicians, academics, and library and information specialists.

SPECIAL TEAMS

Several **Teams**, which are designated particular tasks by the Executive Board, will convene as required and report back to the Executive Board. These may be permanent or temporary and include: Technical/Authentication Team, Band 2 Revenue and Budget Oversight Team, Marketing Team, Public Relations Team, Usage Statistics Team, and Evaluation Team.

PUBLISHER COORDINATOR

The Publisher partners designate a representative to undertake the role of **Publisher Liaison** in the programmes. This person represents all the publishers with involvement in any of the programmes, is an ex-officio member of the Executive Board and the Band 2

Revenue and Budget Oversight Team. The role is currently funded by and physically located at the International Association of STM Publishers.

8. FINANCING

The financial aspects of the programmes' will be dealt with in two categories. The first category comprises the essential core activities that allow the information content of the programmes to be made available and the mediation of registration and access by eligible organizations. These activities are encompassed under Goals A) to C). The second category comprises the outreach and value addition services that are encompassed under goals D), E), F) and G).

8.1 Core partners' contributions/costs

The Infrastructure Review (see section 4.2) gathered financial data from the partners, and an estimate of the total annual value of the resources employed by the various partners on the core activities of the programme was found to be around \$1.8 million per annum. Subsequent to the Review, new costs have arisen in the sense that FAO has launched Band 2 of AGORA and UNEP and Yale University have launched OARE. The publisher partners recognise the costs borne by FAO and WHO in collecting the fees from institutions in the Band 2 countries. These new costs have been added to the figures gathered in the Review, to develop an adjusted annual expenditure of around \$2.2 million (see Table 1).

Table 1: Estimated annual value of resources employed by partners on AGORA, HINARI and OARE

Partners devoted	Resources (\$ 000)
Publishers	850
WHO	600
FAO	250
UNEP	120
Yale University	170
Cornell University – Mann Library ^{Note 1}	150
International Association of STM Publishers	80
Total	2,220

Note 1: This figure includes income from TEEAL provided by Cornell to ITOCA (see 10.2 below).

There was no suggestion from any of the partners involved in the Review that their own level of resources was not sustainable for them. The UN agencies (WHO, FAO and UNEP) are reasonably confident that their budgets are basically secure. The International Association of STM Publishers, which has borne the cost of coordinating the publishers' input into the programmes, has indicated its long term support of the programmers.

The only substantive question over financial sustainability raised by the partners in the Review, and especially the UN Agencies, was over the value of Band 2. Usage by Band 2 institutions is substantially higher than for Band 1, although the proportion of registered Band 2 users that agree to pay to sustain access is relatively low¹⁵. However, the administrative processes associated with collection of license fees are relatively complex and unit costs are substantially higher than for Band 1, when compared to the relatively small total amount of income raised from access fees. Most partners, however, expressed the view that a Band 2 fee was desirable, because (a) resources that are paid for were more valued; and (b) some funds are raised to contribute to the programmes.

8.2 Expanding the programmes' reach

Goals E), F) and G) above have considerable potential costs associated with them. However, the partners' own activities in these areas can be scaled up or down according to the resources that are available in a given year. The principal recurrent cost that the partners are anxious to sustain for the foreseeable future is the Information Training and Outreach Centre Africa (ITOCA), which conducts a considerable programme of training and promotion. As yet, there are no similar organizational collaborators in other regions, but the partners would be keen to see such partnerships created.

In terms of revenue to cover these costs, the one reasonably reliable source is the Band 2 revenues as mentioned above. The publishers have agreed that the licence fee income for Band 2 can be used for training, outreach and other AGORA, HINARI and OARE related items. This amounted to around \$160,000 per annum from 2004 to 2006 when HINARI was the only programme with an active Band 2, but revenues will begin to accrue from AGORA in 2007 and OARE in 2008. Managers at WHO are concerned that Band 2 revenues for HINARI might not be sustained at their current level, due to attrition in the number of eligible countries¹⁶, and therefore it seems prudent to forecast lower revenues for AGORA and OARE. On this basis, a conservative estimate of revenues available from Band 2 once all three programmes are active would be around \$250,000 per annum (Table 2).

Band 2 revenues are already being used to some extent to support ITOCA, and ad hoc activities in other regions. However, substantially larger sums have also been and should be raised in the future from external sources of funding, which have covered most of ITOCA's costs. Contributions have already been made to the programmes

by organizations such as the UK's Department for International Development (DFID), and Foundations such as Hewlett and MacArthur (OARE) and Rockefeller (ITOCA). The partners will need to raise further funding from such sources, or leverage funding through partnerships with implementing agencies such as INASP, if these activities are to be extended significantly.

Table 2: Estimated annual value of resources available for outreach activities

available	Resources (\$ 000)
HINARI Band 2	150
AGORA Band 2	50
OARE Band 2	50
Total	250

9. RISKS TO BE ADDRESSED

Technology

- Stakeholders (contributing partners and users) may lose confidence in the current resilience of the portals and authentication, if technical problems are not solved in a timely way.
- The partners might not keep abreast of developments in portal and authentication technologies.
- The Programmes may come to rely too heavily on a particular technical partner.
- Users may have insufficient connectivity and access to computers and/or the internet to take advantage of the programmes.

Development and Finance

- There may be budget pressure at programme coordination organisations.
- There may be budget pressure at technical and service partners.
- Delivery of user training depends to a large extent on external funding, which is unreliable.

Content and Services

- Publishers may withdraw entirely from the partnership, or reduce their content offering.
- Changes in journal publishing models may have an impact on the initiatives.

¹⁵ A small number of publishers allow free access to their journals to institutions in Band 2 countries as well as Band 1.

¹⁶ As decided by the partnership in July 2006, countries whose GNI per capita passes \$3,000 for two consecutive years are no longer eligible for HINARI. The first six countries will 'graduate' from HINARI Band 2 in 2008.

Partnership

- Individual personnel may change within partner organizations.
- There may be an over-reliance on key individuals or any one partner.
- Publisher motivations may change (e.g. if the focus switched to market development).
- Priorities at programme coordination organisations may change.
- Priorities at technical and service partners may change.
- The partnership may collapse due to organizational changes, or growth.
- Partners may lose sight of the original altruistic vision.
- Partners may lose interest in the Programmes due to slow uptake or other factors.

Mitigating the Risks

- Activities to mitigate these risks will be a key part of ongoing strategic planning for the partners.

10. CONCLUSION

While the Usage and Infrastructure (Partners) Reviews point to some of the weaknesses of HINARI and AGORA, internal and external, both firmly conclude that the programmes should continue and be strengthened and be linked to the UN's Millennium Development Goals. In the Infrastructure Review, the partners indicated their willingness to do this, and this decision was confirmed at the General Partners Meeting (July 2006). That meeting also agreed that a Strategic Plan was needed to achieve the maximum effectiveness of the programmes as they developed.

The primary mission of these programmes will always remain to provide and support access to research and scholarly information for those researchers, practitioners and students in countries least able to afford it. As the partners strive to improve the programmes, they will continue to seek new partners to ensure that valuable new research conducted in the poorer nations will find its rightful way to publication in the international research environment to the benefit of all.

“There is a huge inequality in the developing world regarding access to health information and HINARI levels the playing field. But still there has been little culture of using **HINARI** as a resource for research, so training and experience is needed. **HINARI** has to be around for a long while before the results will really be seen in terms of a culture of learning”
*School of Tropical Medicine,
Ho Chi Minh City, Vietnam*

“I think **AGORA** is a fantastic facility for research institutes like the one I am working with. It overcomes a major problem in accessing research publications and gives entirely new possibilities. I congratulate you on the excellent work.”
Mekong River Commission, Lao PDR

Appendix 1

USAGE AND INFRASTRUCTURE REVIEW HIGHLIGHTS

INTRODUCTION

In 2005, the HINARI and AGORA Partners Group commissioned the first Usage Review for the programmes, and the first Infrastructure (Partners) Review. The reviews were conducted between January and June 2006 and the results were presented at the HINARI-AGORA Partners meeting at the National Academy of Sciences in Washington, DC on 20th July 2006. The reviews were overseen by an Evaluation Team drawn from a range of partner organisations, and drew heavily on the advice and guidance of Nancy Roderer, Director of the Welch Medical Library, Johns Hopkins University, and Robert Herdt of Cornell University and formerly with the Rockefeller Foundation. The Department for International Development provided most of the funding for the reviews.

“In recent memory twice it’s happened that access to HINARI has been unavailable because our Internet service was down. The first time the students were frustrated. The second time they were angry. Now that the students have had access to HINARI they demand it”.

Faculty of Medicine, University of Cuenca, Ecuador

1. TERMS OF REFERENCE AND METHODOLOGIES

USAGE REVIEW

The objectives of the Usage Review were to:

- Assess the effectiveness of HINARI and AGORA from a user perspective;
- Identify any changes that need to be made if the programmes are to continue providing free or low-cost access to key journals for researchers and clinicians in developing countries;
- Provide guidance on the longer term future of HINARI and AGORA;
- Identify any overlap / duplication with other programmes facilitating access to research in the developing world.

John Scott of the Center for Public Service Communications, Arlington, VA, USA, designed and conducted the Usage Review. This consisted of two parts. Part 1 was a qualitative study of how HINARI and AGORA are being used by researchers and librarians and information professionals in 12 countries. Site visits and interviews were carried out in Bangladesh, Cambodia, Cameroon, Costa Rica, Ecuador, Ethiopia, Ghana, Honduras, Senegal, Tanzania, Uganda and Vietnam. The visits were facilitated with generous assistance from national and local offices of WHO, and in some countries by their equivalents from the FAO, and took place between January and June 2006.

Part 2 was a quantitative email and web-based survey of users and librarians conducted during May and June 2006. It was made available on the AGORA and HINARI websites and on the website of the Information Training and Outreach Centre for Africa (ITOCA). The field interviews and surveys

covered agricultural and medical research institutions, medical, nursing and agricultural schools, and teaching hospitals. Survey questions covered: user information; usage information; technical experience with site; awareness; satisfaction; available alternatives; and suggestions.

INFRASTRUCTURE (PARTNERS) REVIEW

The purpose of the Infrastructure Review was to:

- Establish the costs incurred by the partners;
- Make any recommendations for the future organisation and management of the programmes.

Mark Ware of Mark Ware Consulting Ltd, Bristol, UK, conducted qualitative and quantitative assessments of how the contributing partners viewed their participation in HINARI and AGORA. There were face-to-face interviews with managers at the FAO, WHO, the International Association of STM Publishers, Cornell University, Yale University and DFID, and extensive telephone interviews with nine publishers selected to reflect the various types of publisher: large, small, for-profit and not-for-profit. Surveys were emailed to contacts at all the remaining 58 publishers; half were returned.

2. FINDINGS AND RECOMMENDATIONS

Major Findings

- Both the Usage and Infrastructure Reviews, while identifying important external and internal weaknesses, firmly conclude that the programmes are greatly appreciated in beneficiary institutions and that they should continue, and be strengthened.
- AGORA and HINARI are having an important impact at the individual, professional, institutional, and even national level. There is evidence that they are:
 - Strengthening the intellectual foundation of universities, enabling faculty to perform research on a par with peers in industrialized countries, develop their own publishing record, and enabling students to conduct research and seek education in new and emerging scientific fields;
 - Leading to more science-driven public policies and regulatory frameworks;
 - Building the capacity of organisations to gather and disseminate to the public new scientific knowledge in the medical, agricultural and environmental sciences and deliver improved services;
 - Increasing the participation of developing-country experts in international debates;
 - Increasing library patronage at universities and enhancing the status of libraries.
- The most important factors that would cause people to use AGORA and HINARI more are, in order of importance: more bandwidth, more frequent access to internet-linked computers, and more web training content.
- Password management and the HINARI and AGORA user authentication system inhibit the programmes being used to their full potential. Language is another barrier in some countries.

- The motivations of the various partners to participate in the programmes are strong. For the UN agencies, the programmes address core parts of their strategic missions, they relate to wider goals such as the Millennium Development Goals, and they are seen as models of public–private partnerships. For Yale and Cornell Universities, internationalism is a deeply–rooted part of their culture, and they feel that they benefit from visibility and prestige that comes from recognition of their role. For the participating publishers, who provide the content of both programmes, the primary motivation of the large majority is essentially altruistic. In general, the publishers also expect public relations gains, given that the programmes are popular with professional and scientific societies, authors and editors, and participation demonstrates that publishers can give something back to the scientific community. For the International Association of STM Publishers, the benefits are primarily those of its publisher members, and it also sees involvement in this multi–publisher initiative as a natural role for the Association.
- The informal organisation of AGORA and HINARI has contributed to the success of the projects. The organisation is seen as informal, non–hierarchical and based on trust, and getting the job done. The ease of joining and lack of bureaucracy or legal/contractual issues are seen by some as key to the successful recruitment of so many publishers.

Major Recommendations

Organisation and Governance

- Dedicated separate programmes should continue to exist at the point of delivery to capture the expertise of specialists in the respective fields of health, agriculture, and environment.
- There is potential benefit in merging the ‘back office’ routines and processes as far as is practical to focus on operational issues to enhance efficiency and improved services to registered institutions and end users. This might be achieved in a number of different ways.
- The programmes should develop a business plan, with a set of effectiveness measures. This includes the need for better usage statistics.
- A simple constitution providing for a new Executive Board (which could be elected, or ex–officio, or a combination), to direct the programmes on behalf of the partners.

Increasing Usage

- A managed project should be established for the replacement of the SafeWeb authentication system, with a project team, explicit project leader, project plan and a timetable.
- Additional investment in training, outreach and support will have a significant impact on converting registered institutions into regular users, with a follow–up programme for new registrants and for lapsed users, non–users and very occasional users. Appropriate metrics on conversion and frequency of use by institutions to be included in the

stakeholders’ reports would keep the focus on this issue. The programmes should work on improving usability of the systems, including by collecting feedback from users and librarians through regular email and web–based questionnaires/surveys.

- More non–English–language content, including French, Spanish and Portuguese, is widely seen as important, particularly in AGORA, which has very little non–English content.
- AGORA and HINARI could do more to promote the interdisciplinary nature of the journals to which they provide access. It is relatively straightforward now for researchers specializing in a particular disease to find information on that disease, but many of these researchers are not aware that there may be important relevant information to be found in economics, ethics, legal or other subject categories.
- The possibility of a federated search capability across the combined list of journals (single or multiple programmes) rather than via a separate database should be explored.
- There should be a periodic review process for the country lists and exclusions that relate to eligibility for AGORA and HINARI content.

Resources and Funding

- The level of dedicated resources needs to be increased so that the programmes are less reliant on volunteer labour. The programmes should rely on multiple sources of funding to reduce risk. A multi–year commitment from publishers could also assist in seeking long–term funding commitments.
- Major foundations and development agencies of donor/partner governments should be made more aware of HINARI and AGORA. These organisations represent possible sources of funding for HINARI and AGORA training programmes.
- The establishment of a single organisation that funders could deal with is recommended. This might be a not–for–profit entity to be funded, with a board of trustees/directors, constitution, business plan and Key Performance Indicators.

Long Term

- The Usage Review recommended that the programmes be linked with the UN’s Millennium Development Goals, and the Infrastructure (Partners) Review endorsed this recommendation.
- Additional resources should be found to dramatically increase the possibilities for training users in how to navigate HINARI and AGORA (and, more generally, how to use internet for education and research purposes).

Appendix 2

PARTICIPANT PUBLISHERS AND CONTENT INCLUDED

As of June 2007, HINARI's collection consists of 3700 peer-reviewed journals contributed by more than 100 publishers; 39 publishers contribute nearly 1000 journals to AGORA; and 46 publishers provide 1000 journals through OARE.

Generally, most journal content starts with volumes dating to 1997. Full-text articles can be downloaded for saving, printing or reading on screen. The programme

portals are presented in Arabic, French and Spanish as well as English. In addition to research and clinical journals, specialist databases, indexes, and reference books are also available. Resources exist in several languages. Abstracting and indexing databases (PubMed for HINARI and CAB Abstracts for AGORA) allow users to carry out advanced searches for subjects, authors, keywords and titles.

LIST OF PUBLISHER PARTICIPANTS

Publisher	Country	HINARI	AGORA	OARE
Akademiai Kiado	Hungary	2006	2006	
American Academy of Pediatrics	USA	2003		
American Association for Cancer Research	USA	2003		
American Association for the Advancement of Science	USA	2002	2003	2006
American College of Chest Physicians	USA	2003		
American College of Physicians	USA	2002		
American Dental Association	USA	2006		
American Dental Education Association	USA	2005		
American Diabetes Association	USA	2005		
American Fisheries Society	USA		2005	
American Medical Association	USA	2002	2003	
American Physiological Society	USA	2004	2004	2006
American Psychiatric Association Publishing	USA	2006		
American Psychological Association	USA	2005		
American Society for Biochemistry & Molecular Biology	USA	2003		
American Society for Investigative Pathology	USA	2004		
American Society of Clinical Nutrition	USA	2003	2004	
American Society of Clinical Oncology	USA	2003		
American Society of Hematology	USA	2002		
American Society of Nephrology	USA	2007		
American Society of Neuroradiology	USA	2006		
American Society of Plant Biologists	USA	2006	2004	2006
American Society of Tropical Medicine & Hygiene	USA	2004		
Annual Reviews	USA	2004	2004	2006
ARKAT	USA	2007		
Association of American Veterinary Medical Colleges	USA		2006	
Association of Learned and Professional Society Pubs.	UK	2006	2006	2006
Australian Medical Association	Australia	2004		
Australian Physiotherapy Association	Australia	2006		
Berkeley Electronic Press	USA	2006	2006	
Bioline	Canada	2004		2006
BioMedCentral	UK	2002		2006

Publisher	Country	HINARI	AGORA	OARE
BioOne	USA	2003	2003	2007
Blackwell Publishing	UK	2001	2003	2006
Botanical Society of America	USA	2003	2003	2006
British Medical Journal Publishing Group	UK	2001	2003	2006
CABI Publishing	UK	2002	2003	2006
Cambridge University Press	UK	2005	2005	2006
Canadian Psychological Association	Canada	2005		
CMA Journal	Canada	2004		
Cochrane Collaboration	International	2002		
Cold Spring Harbor Laboratory Press	USA	2003	2003	2006
Company of Biologists	UK	2002		2006
CSIRO Publishing	Australia	2005	2004	2006
Deutscher Arzte-Verlag	Germany	2007		
Duodecim EBM Publishing – Finnish Medical Society	Finland	2003		
EBSCO Publishing	USA	2005		2006
Ecological Society of America	USA			2006
EDP Sciences	France		2006	
Elsevier Science	Netherlands	2001	2003	2006
Environmental Information Coalition	USA	2006		2006
European Respiratory Society	UK	2005		
Fac. Medicine Sirraj Hospital, Mahidol University. Thailand	Thailand	2006		
Facultad de Medicina, Univers Autonoma de Bucaramanga	Colombia	2006		
Faculty of General Dental Practitioners	UK	2004		
Frei Universitet Berlin, Internat. Inst. Qualitative Research	Germany	2006		
Future Science Group	UK	2007		
Geo. Thieme Verlag	Germany	2002		
Guilford Publications	USA	2006		
Guttmacher Institute	USA	2006		
Health Affairs	USA	2004		
HFSP Publishing	France			2007
Histochemical Society	USA	2004		
Hogrefe & Huber	German	2005		
Horizon International	USA	2007		

Publisher	Country	HINARI	AGORA	OARE
IAHS Press	UK			2007
ICDDR,B: Centre for Health & Population Research	Bangladesh		2004	
Information & Knowledge for Optimal Health	USA			2006
Institute of Physics	UK			2006
Internat. Institute for Environmental Health Sciences	USA			2007
International Medical Press	USA		2005	
International Mire Conservation Group	Austria			2006
IOS Press	NL		2006	
John Libbey Eurotext	France			2005
John Wiley & Sons	USA	2001	2003	2006
Johns Hopkins University Press	USA		2005	2006
Journal of Bone and Joint Surgery – American Volume	USA		2003	
Journal of Bone and Joint Surgery – British Volume	UK		2004	
Landes BioScience	USA		2003	2006
Lippincott Williams & Wilkins	USA	2001	2003	
Maney Publishing	UK		2005	
Massachusetts Medical Society	USA	2002	2003	
Medknow	India		2005	2006
MIT Press	USA		2006	2006
Morion	Ukraine		2003	
Multilingual Matters/Channel View Publications	USA		2006	2006
Multimed Inc	Canada		2006	
National Academy of Sciences	USA	2002	2003	2006
National Research Council, Canada	Canada	2006	2006	2006
Nature Publishing Group	UK	2002	2003	2006
Oxford University Press	UK	2002	2003	2006
Pharmaceutical Press	UK		2002	
Portland Press	UK		2002	
Public Library of Science	USA		2006	2006
Resilience Alliance	Australia			2007

Publisher	Country	HINARI	AGORA	OARE
Revista Cubana de Anestesiología y Reanimación	Cuba		2003	
Rockefeller University Press	USA	2005	2005	
Royal College of Surgeons of England	UK		2003	
Royal Society of Chemistry	UK			2006
Royal Society of Medicine	UK		2002	
Sage	UK		2002	2006
Schattauer Publishers	Germany		2006	
School of Nursing, Fed. University, Fluminense	Brazil		2006	
SCIELO	International		2004	
SLACK Incorporated	USA		2006	
Society for Endocrinology	UK		2006	
Society for General Microbiology	UK		2004	2004
Society for Neuroscience	USA		2004	
Society for Personality Research	USA		2006	2006
Society for the Study or Reproduction	USA		2003	2003
Springer Science and Business Media	Germany	2001	2003 ¹	2006
Taylor and Francis	UK		2002	2003 2006
Thomson Scientific	USA		2006	2006 2006
Ukrainian Medical Association of North America	USA		2006	
United Kingdom Serials Group	UK		2006	2006 2006
United Nations Standing Committee on Nutrition	International		2007	
University of California Press	USA		2006	2006
University of Chicago Press	USA		2002	2006
University of Toronto Press	Canada		2006	2006
Update Software	UK		2005	
Vathek Publishing	UK			2006
WHO Eastern Mediterranean Regional Office	International		2004	
World Health Organization	International		2002	

Appendix 3

ELIGIBILITY AND REGISTRATIONS

Eligibility

While anyone in the world with Internet access may browse the HINARI and AGORA collections of journal titles and publishers (generally arriving at the level of article abstracts), access to the full-text articles and search features requires institutions to be eligible and to have registered. Eligibility is broadly based on Gross National Income (GNI) as estimated by the World Bank in 2000.

Funded and not-for-profit institutions in most countries with an annual per capita GNI of less than \$1000 are eligible for free access to the journal articles. These are known as Band 1 countries, areas and territories. Publicly funded and not-for-profit institutions in most countries with an annual per capita GNI of between \$1001 and \$3000 can gain access for a nominal annual fee of \$1000

per institution. The publishers return income generated from subscriptions paid by Band 2 institutions to the UN agencies to be used for local training initiatives and promoting awareness of the programmes.

Registrations

On January 4, 2007 HINARI registered its 2500th institution: Hôpital Femme et Enfant de Koutiala in Koutiala, Mali. As of June 2007, 2663 institutions from 108 countries have registered: 1830 in Band 1 countries and 833 in Band 2 countries. Also in June 2007, there are **1049** institutions registered for AGORA in **67** countries in Band 1 and **104** institutions registered in **25** countries in Band 2. OARE launched in October 2006 and as of June 2007, had registered 375 institutions from 49 different countries. All 49 countries are Band I countries. Band 2 for OARE is due to launch later.

HINARI/AGORA/OARE COUNTRY REGISTRATIONS (BAND 1) MAY -JUNE 1

Country	HINARI	AGORA	OARE	Country	HINARI	AGORA	OARE
Afghanistan	24	6	2	Honduras	33	12	11
Albania (a)	17	7		Kenya	60	50	34
Angola	8	2	1	Kiribati	3	1	1
Armenia	25	5	4	Kyrgyzstan	19	10	0
Azerbaijan	11	7	0	Lao People's Democratic Republic	12	6	1
Bangladesh	116	56	17	Lesotho	6	4	4
Benin	8	10	9	Liberia	3	1	0
Bhutan	15	16	9	Madagascar	20	8	13
Bolivia (b)	42	14	13	Malawi	26	19	8
Burkina Faso	20	16	5	Mali	24	19	4
Burundi	4	4	0	Mauritania	7	2	1
Cambodia	18	12	7	Mongolia	29	6	3
Cameroon	28	17	13	Mozambique	22	27	8
Central African Republic	3	1	1	Myanmar	31	7	2
Chad	4	1	1	Nepal	77	29	19
Comoros	1	1	0	Nicaragua	28	21	6
Congo	5	12	0	Niger	4	5	0
Cote d'Ivoire	7	14	6	Nigeria	125	90	35
Democratic Republic of the Congo	28	12	2	Papua New Guinea	24	9	6
Djibouti	5	2	0	Republic of Moldova	14	24	3
Equatorial Guinea (b)	0	0	1	Rwanda	11	9	4
Eritrea	7	5	2	Sao Tome and Principe	1	0	0
Ethiopia	62	56	15	Senegal	27	17	6
Gambia	8	4	0	Sierra Leone	4	2	0
Georgia	37	7	8	Solomon Islands	6	1	0
Ghana	56	39	10	Somalia	22	1	1
Guinea	5	4	0	Sudan	70	25	6
Guinea-Bissau	2	1	0	Tajikistan	4	2	0
Guyana	12	3	6	Timor-Leste	4	1	0
Haiti	13	1	0	Togo	3	4	1
				Tokelau	0	1	0

Country	HINARI	AGORA	OARE
Turkmenistan	3	0	0
Tuvalu	0	0	0
Uganda	58	34	7
Ukraine	114	33	15
United Republic of Tanzania	67	58	15
Uzbekistan	14	7	2
Viet Nam	153	110	15
Yemen	52	7	0
Zambia	29	13	1
Zimbabwe	30	39	11

(a) in Band 2 in AGORA; moving to Band 2 for HINARI in 2008

(b) launched in Band 1 in AGORA and OARE in 2007

HINARI/AGORA COUNTRY REGISTRATIONS (BAND 2) MAY - JUNE 2007

Country	HINARI	AGORA	Country	HINARI	AGORA
Algeria	14	2	Micronesia (Federated States of)	2	0
Belarus	15	1	Morocco	19	4
Belize (c)	5	(i)	Namibia	4	3
Bosnia–Herzegovina	9	0	Panama (c)	15	(i)
Bulgaria	20	4	Paraguay	11	0
Cape Verde	2	0	Peru	117	16
Colombia	108	26	Romania	51	0
Costa Rica (c)	17	(i)	Saint Vincent and the Grenadines (c)	0	0 (i)
Cuba	30	8	Samoa (Western)	5	0
Dominican Republic	17	2	Serbia and Montenegro	36	n.a.
Ecuador	47	6	Suriname	3	1
El Salvador	13	3	Swaziland	3	2
Fiji	5	1	Syrian Arab Republic	17	3
Guatemala	24	4	The Former Yugoslav Republic of Macedonia	10	3
Iraq	95	2	Tonga	3	0
Jamaica	9	1	Tunisia	17	4
Jordan	26	1	Vanuatu	1	0
Kazakhstan	9	1	West Bank and Gaza	13	2
Kosovo	5	(i)	Republic of Montenegro		0
Latvia (c)	12	(i)	Republic of Serbia		3
Lithuania (c)	15	(i)			
Maldives	8	1			
Marshall Islands	1	(i)			

(c) moving out of Band 2 eligibility for HINARI for 2008

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