# Providing Access to Information on a Small Budget

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## PART I

### INTRODUCTION

The need for accurate and timely information does not stop when a student leaves the university. Yet many of the graduates of the Yale School of Forestry and Environmental Studies (FES), and other similar programs, go on to careers in small or under-funded international organizations, consultant groups, governmental agencies, local governments, or other entities that do not have access to the vast resources provided by university libraries. There is no access to *Web of Knowledge* (ISI), *Environmental Sciences and Pollution Management* (CSA), *Scopus* (Elsevier), or *CAB Abstracts* (CABI). The exiting student is left without access to all that she has found to be useful during her academic studies. No longer can she easily find data and literature to help her in research; no more is there easy access to print and electronic journals.

Students in FES come from around the world and, after graduation, they scatter just as widely as they came in (Yi 2000). The librarian for FES saw a need for an organized tool to aid in access to free and low cost electronic indexes to literature and the full text of journal articles that can be used by the widely dispersed alumni population. Consequently, she has begun building a resource list that can aid forestry, environmental studies, and international development researchers in finding useful information. What appears here is the most recent version of the list of web resources that she has developed. For each website there is 1) title, 2) description, and 3) URL. As with all attempts to classify and organize, some sources do not fit neatly into only one classification. The organization is, therefore, a loose designation for each resource listed.

### PORTALS

Portals are defined as websites that serve as entry points to a number of separate information resources either within the same website or pointing out to other websites.

1) CIESIN: Center for International Earth Science Information Network
   Data related to human interactions in the environment. Provides interactive data access and mapping tools.
   www.ciesin.org

2) Earthtrends: from the World Resources Institute
   Ten subject areas dealing with international development and the environment.

Each contains databases, data tables, country profiles, maps, features.
earthtrends.wri.org

3) ECOLEX: combined sponsorship from FAO, IUCN, UNEP
A gateway to environmental law.
www.ecolex.org

4) ELDIS: The Gateway to Development Information.
Funded by Sida, NORAD, DFID, and SDC and developed and maintained by the Institute of Development Studies, Sussex.
Contains over 15,000 e-documents.
www.eldis.org

5) Federal Science Information at FirstGov
U.S. Federal Government science information. Two sites:
Science.gov – gateway to 47 million pages of government science information.
www.science.gov
SciTechResources.gov – catalog of government science and technology websites.
www.scitech.gov

6) GDN: Global Development Network
Founded by a global network of research and policy institutes. Provides portal access to many resources for developing countries.
www.grdnet.org

7) GFIS: Global Forest Information Service
An internet gateway to forest information resources development coordinated by IUFRO.
www.gfis.net

8) United Nations Publications and Databases
Lists publications catalogue, e-publications, and UN databases.
www.un.org/Pubs/

9) Water Resources Databases
Lists textual, bibliographic, and numeric databases compiled by The Water Quality Information Center of USDA National Agricultural Library.
www.nal.usda.gov/wqic/dbases.shtml

**FULL TEXT**
Sites that provide access to full text of journal and report literature

10) Directory of Open Access Journals
"This service covers free, full text, quality controlled scientific and scholarly journals." At present 2,141 journals are included with 583 of them searchable on

the article level.
www.doaj.org

11) TreeSearch
Searchable database of USDA Forest Service Research Station scientists' publications that are available electronically on the web.
treesearch.fs.fed.us

12) U.S. Fish and Wildlife Service Publications Online
Provides a running alphabetical list of electronic documents available. Searchable only through the web browser's search function.
library.fws.gov/pubs3.html

13) OAIster
Collection of freely available, academically-oriented digital resources.
Over 7 million records from 610 institutions.
oaister.umdl.umich.edu/o/oaister/

14) Water Quality Information Center Online Documents
Full text documents covering water and agriculture from the USDA NAL Water Quality Information Center.
grande.nal.usda.gov/wqic/

15) Energy Research Centre of the Netherlands
Covers research areas: biomass, clean fossil fuels, energy efficiency in industry, fuel cell technology, policy studies, renewable energy in the build environment, solar energy, and wind energy.
www.ecn.nl/library/reports/search.html

16) FAO Virtual Library
Search either the Publications Catalogue or the Online publications of FAO.
www.fao.org/publishing/

17) BLDS: British Library for Development Studies E-Library
Collection of full text e-resources on economic and social change in developing countries. Choose either e-journals (lists only free internet editions) or online series.
blds/ids.ac.uk/blds/elibrary/

18) PubMed Central
A digital archive of full text medical literature.
www.pubmedcentral/gov

## BIBLIOGRAPHIC DATABASES

### Subject Specific

19) AGRICOLA

The freely accessible catalog of the National Agriculture Library. Divided into a book catalog and an article database which can now be searched at the same time. The two databases together replicate the commercial versions.
http://agricola.nal.usda.gov/

20) ERIC: Education Resources Information Center

A U.S. federally developed database with over 1 million citations; includes over 90,000 citations on environmental education.
www.eric.ed.gov

21) Finding Environmental Impact Statements (EIS)

A listing of U.S. Environmental Impact Statements developed and maintained by Northwestern University, Transportation Library.
www.library.northwester.edu/transportation/searcheis.html

22) FishBase

"Global information system with all you ever wanted to know about fishes."
www.fishbase.org/search.php

23) USDA Forest Service FSInfo

The combined catalog of all of the U.S. Forest Service Research Stations' Libraries.
fsinfo.fs.fed.us/cgi-bin/gw/chameleon

24) University of Minnesota Forestry Library

The Forestry Library maintains for four databases.
-Social Sciences in Forestry
-Trail Planning
-Tropical Forest Conservation and Development
-Urban Forestry
forestry.lib.umn.edu/index.phtml

25) IDEAS: Economics and Finance Research

This database of over 350,000 items includes over 250,000 items available for free download. Includes forestry, environmental, and development documents.
ideas.repec.org

26) NTIS: National Technical Information Service

Database of science-based research reports of research funded by U.S. Federal Government.
www.ntis.gov/search/

27) PubMed

A database of medical literature.

www.pubmed.gov

28) ReefBase
"A global information system on Coral Reefs."
www.reefbase.org

29) TOXNET
A suite of toxicology databases that also includes information on hazardous chemicals, environmental health, and toxic releases.
toxnet.nlm.nih.gov

30) TranStats
A U.S. Dept. of Transportation website which offers"one stop shopping" for transportation data.
www.transtats.bts.gov

31) TRIS: Transportation Research Information Service
The U.S. Dept. of Transportation database of transportation research. Contains environmental and urban development literature.
trisonline.bts.gov

**BIBLIOGRAPHIC DATABASES**

**General**

32) Find Articles
Commercial yet free database with millions of articles from academic, industry, and popular journals.
www.findarticles.com

33) Google Scholar
This megasite is still in beta test version. Provides links to free and restricted access material.
scholar.google.com

34) GPO Access Catalog of U.S. Government Publications
Includes archive of old publications as well as current; also links those that are online.
Catalog.gpo.gov/F

35) Scirus: for scientific information only
A public database from Elsevier that provides searching of peer-reviewed literature and of websites. Some free access items, some pay-per-view.
www.scirus.com

36) UN Dag Hammarskjold Library

Main library of the United Nations.
www.un.org/Depts/dhl

**PAY PER VIEW SERVICES**
Can search the bibliographic database freely; must pay to get full text

37) Ingenta
19,824,261 items (as of March 27, 2006); for-profit venture.
www.ingenta.com

38) Highwire
1,322,897 free, full text articles from 264 journals. Total of 3,272,294 articles from 924 journals (indexed as of March 27, 2006). Based at Stanford University.
www.highwire.org/

## PART II

PART I of this paper presented a preliminary list of information sources for a future electronic information portal to aid forestry, environmental studies, and international development researchers. While these resources are all useful, the in-depth researcher needs access to one type of resource more than any other, namely, the high-impact, peer-reviewed periodical/journal literature from major publishers.

From the beginnings of the post-World War II information explosion librarians and information scientists have discussed and debated the changing face of information storage, retrieval, and accessibility, from Bush's Memex (Bush 1945) , through Lancaster's concept of paperless information systems (Lancaster 1978), to the information-rich information-poor dichotomy (A. Kagan ed. 1999; A. Kagan 1998; Parker 1970). Out of the discussions and debates have come initiatives that share the common purpose of helping developing nations, and the educational and research institutions within them, to access necessary research literature.

These initiatives are based on two models. The models have been developed to help get information to flow to and from researchers in developing countries. The earlier model was to help the developing countries establish their own scientific publications so that the research done in country can be disseminated throughout the world. The later model was to provide low cost or free access to the peer-reviewed journal literature of the world.

In 1992, the International Council for Science established a program aimed "to improve access to information and knowledge through a commitment to capacity building in emerging and developing countries." (*International network for the availability of scientific publication* 2006) This program, the International Network for the Availability of Scientific Publications (INASP), developed the first of the two models discussed here.

INASP has helped developing countries establish their own scientific publications so that the in-country scientists can disseminate their own research results. (*Scientific communication and publishing in the information age*.1999) Thus, the INASP collaborative has been working to aid the local researchers' work in these countries. It has provided assistance in establishing publications programs and in disseminating the research results globally through electronic means.

The second model is represented by three initiatives, two established science initiatives, the Health InterNetwork Access to Research Initiative (HINARI) (Aronson & Glover 2005/12), and Access to Global Online Research in Agriculture (AGORA) (Vent 2005), and the third, the newly established Online Access to Research in the Environment (OARE) (*Grants will give developing world access to scientific research.* 2006). These three initiatives are examples of what can be done to provide large-scale electronic access to the world's best journal literature to developing countries either at little or no cost. In these models, partnerships among major journal publishers, academic institutions, and international organizations have provided access to thousands of high quality journal titles, over 3,000 for HINARI and over 800 for AGORA. OARE is still in negotiations with publishers so no number is available. In addition, INASP also has worked through its project, PERI, to contract for low cost access to high quality journals for individual countries in the developing world.

In this second model, a set of countries was selected based in World Bank categories (World Bank Low Income) to receive access to the journals free of charge. Then after the initial access was established and the service shown to be stable and secure, another tier of countries was added. This second tier was made up of countries with a higher per capita income, those designated by the World Bank as Lower Middle Income. With the second tier, a fee ($1000) is to be paid by any participating organization (non-profit university, hospital, or research center) annually for access to the entire collection.(Long, 2006)

These two models should now start working together to facilitate the flow of information both ways. And, if fact, INASP has worked through its project, PERI, to contract for low cost access to high quality journals for individual countries in the developing world but this has not been on a wide-scale. The local scientific research should be published in strong, healthy regional scientific publications, and local scientific researchers should be able to have the benefit of access to internationally published research. Both of these forms of access to information are important for equality of knowledge acquisition. They are necessary to break the information-rich information-poor dichotomy.

## References

*Grants will give developing world access to scientific research.* (2006). [Online] Available:http://www.yale.edu/opa/newsr/05-12-22-04.all.html [March 30, 2006]

*International network for the availability of scientific publications.* (2006). [Online] Available: http://www.inasp.info/info/index.shtml [March 29, 2006]

Scientific communication and publishing in the information age.(1999). *Information Development, 15*(3), 185-188.

Aronson, B., & Glover, S. 2005/12. Journal access initiatives: Where are they? why the world health organization? and what is HINARI? *Serials Review, 31*(4): 279-283.

Bush, V. 1945. As we may think. [Online]. *The Atlantic Monthly, 176*(1): 101-108.

Kagan, A. 1998. *The electronic information gap* No. 5. Amsterdam: IFLA. [Online] [March, 28 2006]

Kagan, A., ed. 1999. *The growing gap between the information rich and the information poor, both within countries and between countries: A composite policy paper* (IFLA SRDG Paper No. 7). Bangkok: IFLA.

Lancaster, F. W. 1978. *Toward paperless information systems*. New York: Academic Press.

Long, M. 2006. *Re: OARE project funded at Yale.* [Online] Available: http://www.library.yale.edu/~llicense/ListArchives/0601/msg00024.html [April 5, 2006]

Parker, E. 1970. Information utilities and mass communication. In Sackman, H. and Norman Nie (Ed.), *The information utility and social choice; papers prepared for a conference sponsored jointly by the University of Chicago, Encyclopedia Britannica and the American Federation of Information Processing Societies* (pp. 51-72). Montvale, NJ: AIFPS Press.

Vent, O. 2005. TEEAL and AGORA: Improving access to agricultural journals in low-income countries. *Serials Review, 31*(4):266-269.

Yi, R. 2000, February 14. Traditional study of silviculture struggles with new Yale programs in environmental studies. [Online] *Yale Daily News.* Available*:* http://www.yaledailynews.com/article.asp?AID=4599