A tremendous gap has been observed both between developed and developing countries' access to academic and scientific publication and between developed and developing countries' published research outputs. Chan, Kirsop and Arunachalam have referred to developing countries' lack of access to research literature as an "information famine", noting that:

researchers in these regions often have little or no access to the published research literature due to the high cost of journal subscriptions and inadequate and expensive distribution mechanisms. According to a recent survey conducted by the World Health Organization (WHO), in the 75 countries with an annual GNP per capita of less than US$1,000, some 56 per cent of medical institutions had no subscriptions to journals over the previous five years; in countries with a GNP between US$1,000 and US$3,000, 34 per cent had no subscriptions and a further 34 per cent had an average of two subscriptions per year.

King shows that there is also a tremendous discrepancy between developing and developed countries as represented in research literature:

The [United States, together with the EU, UK, Germany, Japan, France, Canada, Italy] produced about 84.5% of the top 1% most cited publications between 1993 and 2001. … Moreover, although my analysis includes only 31 of the world's 193 countries, these produce 97.5% of the world's most cited papers. The political implications of this last comparison are difficult to exaggerate. South Africa, at 29th place in my rank ordering, is the only African country on the list. The Islamic countries are only represented by Iran at 30th, despite the high GDP of many of them and the prominence of some individuals, such as Nobel prizewinners Abdus Salam (physics, 1979) and Ahmed Zewail (chemistry,1999).

Barriers to publication in the developing world include the high costs of printing and distributing journals in the developing world, as well as difficulties having works accepted in the journals of developing countries due to prejudice. Some scholars from developing countries have found it easier to publish their work while working in the United States, but have found difficulty having their work published once they return home. This barrier presents a special problem for some academics whose universities place an emphasis on publication on foreign journals for job promotions. As a way of increasing the accessibility of academic literature to developing countries, the Commission on Intellectual Property Rights recommended expansion of free openaccess initiatives for academic journals. Open access has also been proposed as a way of decreasing:

 • the North to South knowledge gap: increasing access to developed country publications by developing countries;

• the South to North knowledge gap: increasing the ability of developing countries researchers to get their work published in ways that are accessible to developed countries; and

• the South to South knowledge gap: assisting developing countries in sharing their research with neighbouring countries facing similar problems

Open access was defined at a 2001 meeting convened by the Open Society Institute to launch the Budapest Open Access Initiative in 2001:

By "open access" to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited

Open access takes two primary forms: open access journals and self archiving, where authors deposit their work in online archives made available by their academic institution or other organizations. Authors can archive not only published papers but also earlier versions of their published works. One of the reasons open access is seen as beneficial to developing countries is its low cost and immediate benefit:

The academic communities in poorer countries can take advantage of servers anywhere in the world offering OAI [open access initiative] services, without the need to set up their own independent servers or maintain them. Establishing partners, either S/N [south-north] or S/S [south-south], can minimize infrastructure costs, share expertise and readily become part of the international interoperable effort.

Various studies suggest that the transition to open access is well worth the effort – that open access publications garner more citations than do offline articles

A number of studies have been carried out on the state of open access in developing countries. Gosch and Kumar Das give an overview of the state of open access publishing in India, where open access initiatives are relatively well-entrenched, in their article "Open Access and Institutional Repositories – A Developing Country Perspective: A Case Study of India."14 Fernandez also discusses the state of open access publishing in India in her article "Open Access Initiatives in India – an Evaluation."15 Wang and Su review the state of Open Access in China, where they say open access is still a relatively new concept, and DeBeer and Möller give an extensive discussion of the state of open access in South Africa in their masters theses. The open access initiative has led to open access educational courses, commonly referred to as open courseware (OCW). Such initiatives include the Massachusetts Institute of Technology (MIT)'s Open Courseware, and similar initiatives at the United Kingdom Open University.17 The Indira Gandhi National Open University also provides a national digital repository of open courseware, and India's National Council of Educational Research and Training (NCERT) is working towards making school textbooks available freely on the Internet.18 There has been a special emphasis on the need to make publicly funded research available on an open access basis. Related recommendations have been made at high levels both to the United Kingdom House of Commons Committee on Science and Technology and to the United States House of Representatives Appropriations Committee.19 IDRC makes much of its research available in the open access IDRC Digital

Library (http://idl-bnc.idrc.ca/dspace/). There has also been a special emphasis on the need for common standards for open access databases so that such databases can be indexed by various search engines such as Google Scholar and so that database metadata will be compatible with other applications, such as bibliographic software. This need has led to the Open Archive Initiative (OAI), which defines a common protocol (the OAI Protocol for Metadata Harvesting (OAI-PMH)) for open access archives.