

Challenges of the Approaching Knowledge Society: Major International Issues Facing LIS Professionals

P. J. LOR

International Federation of Library Associations and Institutions (IFLA), The Hague, The Netherlands
Department of Information Science, University of Pretoria, South Africa

J. J. BRITZ

School of Information Studies, University of Wisconsin-Milwaukee, Milwaukee, USA
Department of Information Science, University of Pretoria, South Africa

In the context of the follow-up work arising from the World Summit on the Information Society (WSIS), this paper attempts to answer the questions: Why should librarians and information workers be involved in international advocacy? And what are the international issues with which librarians should concern themselves? Special attention is paid to the role of IFLA, as the main international body representing the interests of librarians, and to the eleven WSIS "action lines" set out in the 2003 Geneva *Plan of action*, along which

much of the current follow-up work is aligned. The concept of the Knowledge Society, and more specifically four criteria for a Knowledge Society – ICT infrastructure, information content, human intellectual capacity, and physical delivery infrastructure – are used as a framework for the answers we give to these questions. A brief discussion of these areas and some comments on the WSIS process precede a broad outline of the international issues facing library and information professionals.

Introduction

Mao Zedong is known to have worked in a library as a young man (Wikipedia 2006a). More recently, Seyyed Mohammad Khatami, President of Iran from 1997 to 2005, was elected to that position after serving as the head of that country's national library (Wikipedia 2006b). In spite of these eminent examples, librarians and information workers generally are not prominent players on the world stage. Yet, librarians have a long history of idealistic internationalism and practical international co-operation. This is reflected in the early history of the International Federation of Library Associations (IFLA), [1] which was founded in

1927. In its early years it was closely linked to the League of Nations, the forerunner of the United Nations Organisation (Breycha-Vauthier 1977). The early pioneers of IFLA were inspired by ideals of worldwide peace and co-operation (Wieder 1977; Wieder & Campbell 2002).

IFLA has a long-standing relationship with UNESCO and with international non-governmental organisations such as the International Council on Archives (ICA) and the International Publishers Association (IPA) and is a founding member of the International Committee of the Blue Shield, an alliance of international non-governmental bodies promoting the protection of libraries, archives, museums, monuments and sites against natural

P.J. Lor is Secretary General, International Federation of Library Associations and Institutions (IFLA), P.O. Box 95312, 2509 CH The Hague, The Netherlands and Extraordinary Professor, Department of Information Science, University of Pretoria, South Africa. Telephone: +31 70 3140884; Fax: +31 70 3834827. E-mail: peter.lor@ifla.org.

J.J. Britz is Professor and Dean, School of Information Studies, University of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee, WI, USA 53201-0413 and Extraordinary Professor, Department of Information Science, University of Pretoria, South Africa Telephone: +1 414 229 4709; Fax: +1 414 229 6699. E-mail: britz@uwm.edu

and man-made disasters (Shimmon 2004). It represents the interests of libraries and their users at international forums such as meetings of the World Intellectual Property Organisation (WIPO) and the World Trade Organisation (WTO). In recent years IFLA has stepped forward onto the international stage with intensive advocacy work at the World Summit on the Information Society (WSIS) (Byrne *et al.* 2004; Haavisto & Lor 2005).

International advocacy work is not confined to IFLA. National and regional library bodies are also engaged in it, often in cooperation with IFLA. In the U.S., the American Library Association and other major national library associations have formed the Library Copyright Alliance to represent library interests in the copyright arena. An example of a regional body is the European Bureau of Library, Information and Documentation Associations (EBLIDA), which is primarily an advocacy body functioning in the European context and focusing on European Information Society issues (EBLIDA 2006).

At WSIS the intensified advocacy work on behalf of libraries did not go unnoticed. At a Preparatory Committee meeting before the 2003 Geneva WSIS meeting, a member of a government delegation was heard to ask, "Where do all these librarians come from, and what do they want?"

Against the background of the WSIS process, this paper addresses the implied questions: Why should librarians and information workers be involved in international advocacy? And what are the international issues with which librarians should concern themselves? These questions are not only of academic interest. Although the second and last WSIS summit is now history, much follow-up activity is now taking place. Librarians and information workers must be clear on what the issues are and what they want to achieve in the follow-up process. We give special attention to the role of IFLA, as the main international body representing the interests of librarians and to the WSIS "action lines" (about which more later) along which much of the follow-up work is aligned. As a framework for our answers, we use the concept of the Knowledge Society, and more specifically four criteria for a Knowledge Society. A brief discussion of these and some comments on the WSIS process precede a broad outline of the international issues facing library and information professionals.

The knowledge society as framework

This paper is concerned with challenges of the approaching Knowledge Society for library and information professionals. Elsewhere (Britz *et al.* 2006; Lor & Britz 2006) we have argued that the concept of an Information Society is too limited because of its primary focus on ICT in information processing and distribution. We prefer to use the concept of a Knowledge Society. It is a fuller and richer concept where the emphasis is on content – the creation, distribution and use of information and knowledge in society. For us "knowledge" implies a resource that is richer, more structured, and more qualitative than "information." Knowledge is not merely the result of collection and processing and distribution. Knowledge requires application, experience and the exercise of judgment. Based on this distinction we (Lor & Britz 2006) define a Knowledge Society as:

a society that operates within the paradigm of the economics of information. It values human capital as the prime input to production and innovation. A knowledge society is well connected via modern ICTs to the dematerialized economy, and has access to relevant and usable information. A highly sophisticated physical infrastructure underpins this economic model and allows the delivery of the material objects that are accessed and manipulated in the dematerialized world of modern ICTs.

Taking this definition as our point of departure it is possible to identify the following four inter-related criteria for a Knowledge Society.

- ICT infrastructure
- Information Content
- Physical delivery infrastructure
- Human capacity

We briefly describe these four criteria.

ICT infrastructure

A prerequisite for successful participation in the Knowledge Society is a well-developed, well-maintained and affordable information and communication infrastructure. Without such an ICT infrastructure global socio-economic activities and political participation are limited and even impossible. This ICT infrastructure can indeed be

seen as the backbone of the information-based global economy.

Information content

A well-developed and well-maintained information infrastructure is not sufficient unless it can provide access to relevant information needed to participate meaningfully in the dematerialized economy. Some of the prerequisites of relevant information include affordability, timeliness, and presentation in languages and contexts users can relate to and understand.

Human capacity

It is our opinion that the investment in and development of human intellectual capability is one of the most important factors that facilitate further development and sound economic growth in the era of globalization. We argue that, if developing countries do not invest more in education they will be excluded from the global knowledge pool. As Norris (2000, 59) puts it: "Human capital represents that property that allows people to live and work productively." It is of little use to have access to relevant information but not the educational infrastructural support, including R&D facilities, to enable people to create new knowledge.

Physical delivery infrastructure

The new information economy, to be efficient and effective, must be supported and underpinned by a material and efficient infrastructure. Amongst other things this includes well-maintained airports, harbours, railways, roads, warehouses and physical addresses of people. A dematerialised information-based economy without a physical infrastructure to allow the delivery of the physical products and rendering of services is of little use. In this connection it is increasingly being recognised that the digital divide is accompanied by an equally debilitating physical divide.

Library advocacy at the World Summit on the Information Society

The International Telecommunication Union (ITU) first proposed a World Summit on the Information Society (WSIS) in 1998 and the proposal was en-

dorsed by the United Nations General Assembly in December 2001. United Nations Secretary General Kofi Annan (2003, 2) encapsulated the purpose of the Summit in the following statement:

The digital revolution is transforming society. If harnessed effectively, information and communication technologies (ICTs) have the potential to improve greatly our social, economic and cultural lives. They can serve as an engine of development in areas ranging from trade to telemedicine, and from education to environmental protection. They are tools with which to advance the cause of freedom and democracy. And they are vehicles with which to propagate knowledge and mutual understanding.

Yet the majority of the world's population has yet to benefit from these new technologies. That is why, at the Millennium Summit in 2000, world leaders pledged to work together to put ICTs at the service of development [...]

The World Summit on the Information Society [...] was a unique opportunity for all key players to develop a shared vision to bridge the digital divide and create a truly global Information Society.

A series of regional planning meetings as well as "Preparatory Committee" (PrepCom) meetings were held in 2002 and 2003. Unusually, WSIS took place in two phases. The first phase was held in Geneva on 10–12 December 2003 and the second phase in Tunis on 16–18 November 2005, preceded by further PrepCom and related meetings. In the course of this long process, the focus shifted from the somewhat technological emphasis of the ITU to a more balanced approach encompassing social, cultural, economic and political factors, as suggested in the statement of Kofi Annan. The United Nations Educational, Scientific and Cultural Organization (UNESCO) came to play a more prominent role in the summits, along with a large number of non-governmental organisations (NGOs), referred to broadly as "Civil Society". One could say that there was a shift from the "digital divide", with its technological emphasis, to the "Information Society", a more multidimensional concept.

During the Geneva phase the broad themes concerning the Information Society were discussed and two documents, a *Declaration of Principles* and a *Plan of Action* were prepared and adopted (WSIS 2003). This gave rise to questions as to what remained to be done in Tunis, where the focus was to be on implementation. The main outstanding issues that had not been resolved in Geneva concerned:

- Internet governance
- How to finance the bridging of the digital divide, and
- Modalities of follow-up (whether a new UN structure should be set up to monitor and evaluate progress following the Tunis summit)

In Tunis all three of these issues were hotly debated. Internet governance proved a sticking point until almost the last minute, when a compromise was reached according to which the Secretary General of the UN would set up a multi-stakeholder Internet Governance Forum with some moral authority but little else. The Governments of most developed countries proved unwilling to make a firm financial commitment to bridging the digital divide. Neither were they keen to see yet another agency added to the UN family to oversee the implementation of the WSIS action plans. Hence WSIS follow-up responsibilities are being distributed among a number of international agencies, with the ITU and UNESCO playing lead roles in respect of many of the action lines that had been defined in the Geneva action plan.

Among Civil Society groups there was some anxiety that some of the commitments of principle made in Geneva might be watered down under pressure from certain governments. In particular, given the very poor human rights situation in the host country, Tunisia, it was anticipated that attempts might be made to water down the firm commitment to freedom of information that had been made in the Geneva document. In the event, a number of governments attempted to do this in Tunis, but they were unsuccessful.

Thanks to intensive and sustained advocacy work by IFLA and its allies, the principles and action plan document adopted in Geneva contained some very favourable language concerning the role of libraries in the Information Society. In the library community there were fears that some of these gains might be eroded during the second phase of the Summit. During the period between the two phases, IFLA continued to stress the value of libraries as agencies promoting national progress in the information society. IFLA's argument was that it is not necessary to invent new agencies to provide the peoples of the world with access to networked knowledge resources. Libraries are already doing this in many countries, while in other countries only a modest additional investment would be needed to enable them to do this

effectively. Together with the Bibliotheca Alexandrina, IFLA organised a pre-summit Conference in Alexandria, Egypt, on the theme "Libraries: the information society in action", in which IFLA showcased success stories illustrating the role of libraries in the Information Society. At the end of the pre-summit IFLA launched its *Alexandria Manifesto on Libraries, the Information Society in Action* (IFLA 2005a).

In the event, the Tunis summit also provided IFLA with an excellent platform to promote the role of libraries in the Information Society. IFLA's efforts did not go unrewarded. The gains that had been achieved during the Geneva 2003 phase were successfully carried forward to the final document. In par. 90(k) of the *Tunis Agenda for the Information Society* (WSIS 2005a), the key concluding document of the Tunis Summit, the role of libraries in providing equitable access to information and knowledge for all, is emphasised. The document reaffirms a commitment to "providing equitable access to information and knowledge for all" and to use ICTs as development tools by:

- k. *supporting educational, scientific, and cultural institutions, including libraries, archives and museums, in their role of developing, providing equitable, open and affordable access to, and preserving diverse and varied content, including in digital form, to support informal and formal education, research and innovation; and in particular supporting libraries in their public service role of providing free and equitable access to information and of improving ICT literacy and community connectivity, particularly in underserved communities;*

In its post-WSIS advocacy work IFLA strives for effective advocacy for the role of libraries in the information society. To do this IFLA attempts to ensure representation of the library community in the main, most relevant international forums, and to promote library advocacy at the national level by national library associations, national libraries and the library profession generally.

From IFLA's perspective there are currently two main lines of follow-up of the WSIS summits. One concerns the Internet governance issue and the setting up of the Internet Governance Forum. Here IFLA lends its voice to other Civil Society groups that stand for a transparent, accountable multi-stakeholder approach to Internet governance. The other concerns the eleven "action lines" set out in Section C of the *Geneva Plan of action* (WSIS 2003). For each action line a UN organisation (e.g. ITU or

UNESCO) has been appointed rather quaintly as "facilitator" or "moderator", with an individual being designated as the "focal point". Various "facilitation" and consultation meetings have been taking place to set the follow-up activities in motion. In the analysis that follows, reference will be made to the relevant action lines.

Four sets of international issues facing the knowledge society

ICT Infrastructure

Issues relating to the ICT infrastructure include the "digital divide", an expression that points to disparities between haves and have-nots (both between and within countries) in terms of:

- Availability and maintenance of workstations and peripherals such as scanners, printers, etc. It is estimated that currently in Africa there are 0.9 PCs per 100 inhabitants (Zulu 2006). In many countries the cost of a PC exceeds the mean annual per capita income, which puts PC ownership well beyond the means of the majority (Kanellos 2004). Unfortunately, all too often taxes and customs duties add substantially to the price.
- Affordability of software: hardware does not run itself. The cost of licensing proprietary software, as distinct from open source, is a big obstacle in developing countries.
- Connectivity: the availability of reliable telephone lines and other telecommunications connections. Currently Africa, with 14.1% of the world's population, has 2.3% of the world's Internet users. But growth is rapid: 424% between 2000 and 2005, considerably higher than the world average (Internet World Stats 2006).
- Bandwidth: the amount of traffic that can be carried and at what cost. Home Internet users in developed countries may have more bandwidth at their disposal at less cost than is available – or was until recently – to some universities in African countries where the traffic is throttled by telecommunications monopolies (cf. BBC News 2006).
- Equity: in most countries access to the infrastructure is skewed towards a small, mainly urban elite. This is illustrated by the International Telecommunication Union's statistics for main telephone lines in Africa: 3.0 per 100 inhabitants for Africa as a whole, 1.0 per 100 for Sub-Saharan Africa, 28.5 in Mauritius (International Telecommunications Union, 2004a). The corresponding figure for the Netherlands is 61.4%. (International Telecommunications Union 2004b).

This is much more than a digital or technological phenomenon, as became clear during the first

and second phases of WSIS. A purely technological barrier would not have given rise to the stalemate that arose at WSIS, but an awareness of the social, cultural and political dimensions of the digital divide made for a more complex political problem, which was not successfully addressed. As mentioned earlier, the Digital Solidarity Fund proposed in 2003 by President Abdoulaye Wade of Senegal (Wade 2003) failed to gain the support of the governments of developed nations. Although a Digital Solidarity Fund Foundation was set up in Geneva with support from that city, participation remains voluntary (Digital Solidarity Fund 2006).

The action lines deal with many interrelated aspects, but two of them relate to the ICT infrastructure more specifically. Action line C2, *Information and communication infrastructure: an essential foundation for the Information Society*, covers such aspects as the roll-out of ICT connectivity to schools, libraries and other agencies, developing broadband networks, and access for disadvantaged groups. Action line C11, *International and regional cooperation*, deals with aspects such as the priority of ICT projects in development aid, the mainstreaming of ICTs in the programmes of international and aid agencies, and development of public/private partnerships.

There are two action lines of a more general scope which are also very relevant here: C1, *The role of governments and all stakeholders in the promotion of ICTs for development*, covers such aspects as the development of national e-strategies for the Information Society through participation by all stakeholders, public/private partnerships, ICT policies of international organisations, and finance and investment policies to promote ICTs. Action line C6, *Enabling environment*, includes actions that governments should take to create an appropriate environment to maximise the social, economic and environmental benefits of the Information Society. It also includes the Geneva Summit's request to the UN Secretary General to set up a working group on Internet governance (par. 13(b)).

For the international library community, there are two main advocacy issues. First, libraries need bandwidth if they are to play the role suggested in the Geneva Plan of Action and the Tunis Agenda. Action line C2 is relevant here. However, libraries are not in the infrastructure business themselves. Their main line of attack is lobbying at the national level to ensure that the role of libraries and their

need for bandwidth is recognised in national ICT and Information Society strategies and budgets (action line C1). This action line has been prioritized by IFLA.

The second issue is Internet governance (touched on in action line C6). During the run-up to the Tunis Summit IFLA issued a statement on Internet governance (IFLA 2005d), supporting "the development of the Internet as a reliable multi-lingual system which will be available to all and will facilitate unrestricted access to information by all peoples in their languages of choice" and supporting a multi-stakeholder approach to its governance. Since there are so many NGOs advocating this position, IFLA does not intend to play a leading role on the issue of Internet governance, but will lend its voice to those of other NGOs that are taking the lead here.

Information content

Issues relating to content can be categorised in relation to three ethical principles: Freedom, Equity and Inclusion.

Freedom

Freedom of access to information and freedom of expression are essential for the development of a well-educated, information-literate population that is able to participate actively in the knowledge society. There are countries that aspire to develop as knowledge societies but severely restrict freedom of expression, particularly on the Internet. Elsewhere we have argued that these countries may conceivably make progress towards the information society, but that the knowledge society proper is beyond their reach. A knowledge society requires a high degree of creativity, intellectual curiosity, openness to divergent views and critical interaction, which depend on intellectual freedom (Lor & Britz 2006). IFLA's Internet manifesto (IFLA 2002) called for access to the Internet and all its resources to be consistent with the Universal Declaration of Human Rights, particularly article 19:

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers (United Nations 1948).

This was firmly endorsed in par. 4 of the Geneva *Declaration of Principles* (WSIS 2003, 4) and in spite of attempts by certain governments to water down the commitment to freedom of expression, reaffirmed in the *Tunis Commitment* (WSIS 2005a). However, the Geneva action lines are stronger on Internet security than on freedom of expression. Security is the theme of action line C5, *Building confidence and security in the use of ICTs*, which concerns such issues as data and network integrity and security, combating cyber-crime and spam, promoting awareness of online privacy, consumer protection, and secure online transactions. The mention of privacy is to be welcomed, but no gesture is made in C5 towards balancing security and freedom. We also look for this balance in vain in action line C10, *Ethical dimensions of the Information Society*. This covers actions intended to promote the common good (respect for peace, freedom, tolerance) and the protection of privacy and personal data, and to prevent abusive use of ICTs.

Action item C10(a) (par. 25(a)) mentions freedom along with other "motherhood and apple pie" desirables:

- a) Take steps to promote respect for peace and uphold the fundamental values of freedom, equality, solidarity, tolerance, shared responsibility, and respect for nature.

"Ethical dimensions" are referred to generally in action item C10(b) (par. 25(b)) and C10(d) (par. 25(d)), but in the longest paragraph, C10(c) (par. 25(c)), the emphasis is again on security:

- c) All actors in the Information Society should promote the common good, protect privacy and personal data and take appropriate actions and preventive measures, as determined by law, against abusive uses of ICTs such as illegal and other acts motivated by racism, racial discrimination, xenophobia, and related intolerance, hatred, violence, all forms of child abuse, including paedophilia and child pornography, and trafficking in, and exploitation of, human beings.

There is no indication that the preventive measures "as determined by law", should be balanced by the fundamental freedoms of Article 19. Thus the WSIS outcome offers no respite in the struggle for freedom of expression, which in IFLA is spearheaded by the Committee for Free Access to Information and Freedom of Expression (FAIFE) (IFLA 2006b).

Equity

The principle of equity, based on the moral notion of social justice, requires that all individuals, groups and countries, including the less affluent, should be able to gain access to the information that is essential to their survival and wellbeing, and should not be cut off from such information by economic or legal barriers. This implies reducing the gap between information-rich and information-poor.

Such a gap has always existed, but modern ICTs offer hope of dramatically reducing it. Once information is available in digital form, it can be widely disseminated on the Internet, with very modest incremental cost. But the promise of digital technology coincides with a worldwide awareness of the competitive and strategic value of information, leading to its commoditisation. Intellectual property rights have become key assets of large corporations, and in the context of globalisation they seek to capitalize on these assets worldwide, by

- More rigid enforcement of copyright, often under the guise of clamping down on "piracy"
- Deployment of reproduction rights organisations that collect copyright royalties on behalf of publishers, in many cases doing this in an aggressive or misleading manner which denies users their legitimate rights to copy contents under "fair use" or "fair dealing" exceptions to copyright legislation
- Promotion of public lending right legislation
- Licensing conditions that compel information users to pay every time an item of information content (e.g. a journal article) is used – something made possible by online dissemination of digital content as distinct from the sale of physical books and journals, and justified on the grounds that "digital is different"
- Development of anti-circumvention technology that prevents unauthorised copying but can also, as a side effect, present an obstacle to legitimate use
- Attempts to extend copyright to materials that have not in the past been subject to copyright, e.g. databases and broadcasts
- Attempts to extend the term of copyright, for example in the United States and the European Union, the term of copyright on a work has been extended to seventy years after the death of its author
- Limiting the IPR policy space of the developing nations and forcing them to conform to the current International IPR regimes, represented by amongst other the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO).

Although copyright holders have legitimate rights that should be respected, these measures tend to encroach upon the "information commons", that reservoir of information which is the common heritage and resource of humankind. In sharp contrast to the levelling and empowering potential of digital technology, these measures tend to work to the detriment of poorer countries, which are heavily dependent on information imported from the richer countries.

The enclosure of the information commons is not only manifested at the national level, where publishers lobby national legislatures to amend existing copyright legislation, but also at the international level. Internationally two mechanisms are commonly used: international treaties, and bilateral or multilateral free trade agreements. The World Intellectual Property Organisation (WIPO) provides a platform for the adoption of new treaties, such as the proposed treaty on the rights of broadcasting organizations, which is currently under discussion (Geist 2006). In free trade agreements, an economically powerful country makes enactment of restrictive copyright legislation in weaker (developing) partner countries a precondition for access to the market of the more powerful country. The result is that the countries that sign such trade deals end up with copyright restrictions that go well beyond what is required by international treaties, and which are detrimental to education and public use of information (Britz, Lor & Bothma 2006).

As the balance of power in respect of intellectual property rights has shifted increasingly in favour of rights holders, dissatisfaction with the current system of scholarly publishing has grown. Scholarly publishers stand accused of presenting serious obstacles to the transmission of content to users, particularly users in developing countries. For example:

- Steeply rising, unaffordable prices
- Unfair licensing schemes
- Double dipping (the client is made to pay twice, first as creator, then as user)
- Excessive profits
- Predatory intellectual property tactics (Britz & Lor 2003; Lor & Britz 2005)

Libraries and users in developing countries are most severely affected by these conditions, but

even the wealthiest research libraries in the developed countries are affected. It is not surprising that alternatives are being developed, and their multiplication is made possible by rapid developments in information technology. A combination of new technology, outdated business models and greed threatens the survival of the current for-profit journal publishing industry.

In the last decades, largely thanks to the emergence of digital media, a variety of alternatives to the for-profit sector have come forward. These include:

- Not-for-profit aggregators (e.g. eIFL) [2]
- Open access journals
- Institutional repositories
- Discipline or problem-oriented repositories

For libraries the most relevant Geneva action line here is C3, *Access to information and knowledge*. It covers policies relating to public domain information, legislation promoting access to information, research and development to facilitate accessibility of ICTs, community public access points (including such access in libraries), alternative software models (proprietary, open-source and free software), encouragement of research on the Information Society, and support for research and development on different software models and licences.

In action line C3 action items (a) and (i) (paragraphs 10(a) and (i)) are of particular relevance:

- a) Develop policy guidelines for the development and promotion of public domain information as an important international instrument promoting public access to information.
- i) Encourage initiatives to facilitate access, including free and affordable access to open access journals and books, and open archives for scientific information.

In Action line C7, *ICT applications: benefits in all aspects of life*, various applications of ICT are dealt with. It proposes actions in relation to e-government, e-business, e-health, e-employment, e-environment, e-agriculture and e-science. (E-learning is covered by C4.)

Here mention is made of open access in the context of e-Science (par. 22):

- b) Promote electronic publishing, differential pricing and open access initiatives to make scientific information af-

fordable and accessible in all countries on an equitable basis.

- c) Promote the use of peer-to-peer technology to share scientific knowledge and pre-prints and reprints written by scientific authors who have waived their right to payment.

Although the cited action items convey a generally favourable attitude towards the public domain and open access, this is unlikely to halt the enclosure of the public domain. Librarians and information workers need to be vigilant. They must be aware in good time of proposed legislation or treaties that affect intellectual property rights, evaluate the effects of the proposals, and conduct effective advocacy to make decision-makers aware of negative implications.

Inclusion

The term "inclusion" can be used in two senses: referring to the role of the library as an agency of social inclusions that reaches out to disadvantaged and marginal groups in society, and to the inclusion of the library in the Knowledge Society.

In action line C2, *Information and communication infrastructure: an essential foundation for the Information society*, reference is made to the need to address the special requirements of older people, persons with disabilities, children and other vulnerable groups, in national e-strategies (paragraphs 9(e) and (f)).

In the international context the principle of Inclusion implies that there should be scope for cultural and linguistic diversity in a "multipolar" world allowing for the survival and development of national and local cultures and the preservation and development of threatened languages. This also applies to digital resources and the Internet.

Action line C8, *Cultural diversity and identity, linguistic diversity and local content*, (par. 23) deals with cultural diversity in some details and covers policies and actions to promote respect for cultural identity, traditions and religions and dialogue among cultures as a factor in sustainable development. Several action items are relevant to libraries, for example:

- Par. 23(b): Develop national policies and laws to ensure that libraries, archives, museums and other cultural institutions can play their full role of content – including

traditional knowledge – providers in the Information Society, more particularly by providing continued access to recorded information.

(c) Support efforts to develop and use ICTs for the preservation of natural and cultural heritage, keeping it accessible as a living part of today's culture. This includes developing systems for ensuring continued access to archived digital information and multimedia content in digital repositories, and support for archives, cultural collections and libraries as the memory of humankind.

(d) Develop and implement policies that preserve, affirm, respect and promote diversity of cultural expression and indigenous knowledge and traditions through the creation of varied information content and the use of different methods, including the digitisation of the educational, scientific and cultural heritage.

(k) Enhance the capacity of indigenous peoples to develop content in their own languages.

While this adequately covers inclusion of the languages, cultures and knowledge of the South, the principle of Inclusion further implies unobstructed South-North information flows. Elsewhere we have argued that in a humane world cultural diversity and many modes of knowing are welcomed. This implies that information and knowledge should flow from South to North as well as from North to South. Three forms of South-North information flow are relevant here. One is the flow of scholarly information. Scholars in the developing world have to contend with many barriers. These include lack of information and other resources for their scholarly work, lack of interest in their contributions and prejudice (Lor & Britz 2005). This factor is not dealt with in the action lines.

A second form of South-North information flow is that related to the prospecting and commercialization of indigenous knowledge. Here ethical and legal problems arise (Lipinski & Britz 2001; Britz & Lor 2003).

The possibility of one-sided exploitation also arises in a third form of South-North flow, the digitisation of heritage materials of the countries of the South. In Africa a considerable number of projects are being undertaken to digitise African heritage material (Tsebe 2005). At face value this is a wonderful way of promoting an awareness and appreciation of Africa's rich cultural heritage, but caution is called for. We need to ask critical questions, for example who owns the digitised con-

tent, who benefits from the project, and whether the people whose heritage it is will be able to gain access to the digitised version thereof (Lor & Britz 2004). Here the ethical requirement of Equity should not be overlooked.

In October 2005 UNESCO's General Assembly approved the Convention on the Protection and Promotion of the Diversity of Cultural Expressions, commonly known as the Cultural Diversity Treaty. It recognizes the right of States to formulate cultural policies and to adopt measures in favour of the diversity of cultural expressions (UNESCO 2006). It is seen as an attempt to enable smaller and less wealthy countries to protect themselves against being flooded with mass culture from wealthy countries, particularly the USA, which opposed it. It will come into force once it has been ratified by 30 member states, after which the international library community will closely watch its implementation.

Human capacity/capability

Skilled people are a precondition for progress towards a Knowledge Society. Three categories of people are considered here: information intermediaries, information users and creators of knowledge.

Information intermediaries

There are many information intermediaries – editors, publishers, agricultural extension officers, teachers, journalists and travel agents are just a few examples. Here we are concerned with librarians and information workers. The question has been raised whether librarians and information specialists will be eliminated through a process of disintermediation. Conceivably, user-friendly online systems enable users to gain access to the information they need themselves, without assistance from a librarian. However, disintermediation tends to be followed by re-intermediation, as the former intermediaries find new ways of adding value (Middleton 2000).

It is likely that librarians and information workers too will have a continuing role in the Knowledge Society as information intermediaries. No matter how friendly the user interfaces or how rapid the response, the digital information environment can be overwhelming in its volume and

complexity. The mediating roles of librarians and information workers include the following:

- Selection, including assessment of the authenticity and integrity of the acquired content, and decision-making on price/benefit
- Acquisition: either by adding physical material to stock, or by acquiring access, which requires expertise and negotiation skills
- Preservation: not equally important in all libraries, but there will have to be a number of trusted institutions that can be relied on for long-term preservation
- Integrated access: the library is where analogue material, born-digital material and digitised material must be made accessible to users seamlessly through bibliographic, physical and digital organisation that enables them to discover and access resources regardless of their format or where they are held physically.
- Dissemination: libraries provide awareness and alerting services.
- Information literacy education: Librarians are ideally placed to provide this education, including education about copyright. Copyright education on university campuses is best not left to publishers' representatives or reproduction rights organisations, eager as they may be to offer it free of charge, since they commonly forget to mention details such as "fair use".
- User support: this includes motivating, conscientising, educating, and counselling users.

The integrated management of digital resources is becoming the key challenge for library and information managers.

Users

Information literacy is key to participation in the Knowledge Society. In a Knowledge Society participation is not limited to an elite group. There should be wide participation by the general population. As information users they need to be trained in determining their information needs, in identifying, locating and accessing resources, and in evaluating and utilising these. Access to the Internet brings many more resources within reach, but a disadvantage is that digital resources that are rapidly discovered may leave both students and inexperienced researchers with the illusion that they have found everything worth finding. Increasingly researchers assume that if information is not available digitally, it is not worth looking for. Many students assume that if something cannot be found using Google, it does not exist. Information literacy in the wider sense, which

goes beyond the use of ICTs as such, is essential.

Information literacy education is a major challenge for librarians. This has been recognised by the International Federation of Library Associations and Institutions (IFLA), and by UNESCO, which is funding a series of IFLA expert seminars on information literacy. Last year, in the run-up to the World Summit on the Information Society, IFLA issued a statement emphasising its importance (IFLA 2005b).

Creators of knowledge

We have argued that the Knowledge Society only dawns in a country when its scholars are not merely users of imported knowledge, but they themselves contribute to knowledge creation. This implies active participation in scholarly work, not merely absorbing knowledge produced elsewhere (Britz *et al.* 2006). All creators of knowledge are also information users. They have similar needs, and in addition, they need an enabling environment, which might include:

- Exposure to ongoing research work elsewhere
- A culture of scholarship
- A favourable institutional environment
- Policies to promote scholarly productivity

In the Geneva Plan of Action, human capacity is dealt with in *C4, Capacity building*. This action line covers skills needed for the Information Society, including literacy and "ICT literacy", the use of libraries in e-literacy work, removal of gender barriers, training of ICT staff, empowerment of local communities and nomadic and indigenous peoples to use ICTs, developing distance learning, and the use of ICTs in the training of such groups as librarians and archivists. In the document, the terms "ICT literacy" and "e-literacy" are used. We prefer "information literacy" as the more encompassing term. The technology or the medium is secondary to the generic intellectual skills that are needed for participation in the Knowledge Society. It will be an ongoing challenge to the library and information profession to

- Build its own capacity, among others by reskilling of existing personnel
- Participate in the capacity building of the user community

- Gain recognition of its essential role in such capacity building

Notes

1. IFLA was later renamed International Federation of Library Associations and Institutions, but kept its original acronym.
2. eIFL stands for electronic Information For Libraries. See <http://www.eifl.net>, accessed 2006-09-06.

References

Physical delivery infrastructure

The infrastructure needed for the physical delivery of goods and services, as distinct from the delivery of digital content, is easily overshadowed by the glamour of state-of-the-art ICTs. Yet physical delivery remains essential. Tele-medicine (or e-medicine) is a great idea if online assistance from the medical experts at some western institute of tropical medicine helps medical staff in a remote rural clinic to diagnose accurately an infectious disease that has broken out in their province. But how are the necessary vaccines, medicines and equipment to be deployed to fight the epidemic if the nearest airfield, currently in the hands of an insurgent militia, is 120 kilometres away on rutted tracks that are only negotiable in the dry season? There are limits to "leapfrogging" – the notion that African countries can leap directly from an agrarian to an information era, without having to pass through the intervening development stages. Every country needs a physical infrastructure of airports, roads, railways, power transmission lines, etc. (Britz *et al.* 2006).

Finally, issues relating to physical delivery infrastructure include the future of the library as a physical space and whether physical document supply will remain relevant. There is an increasing awareness of the importance of the preservation of content, where the preservation of born-digital materials present particular challenges, while recent natural and man-made disasters have highlighted disaster prevention and response as international issues.

Conclusion

Using the four criteria for a Knowledge Society as a framework, we have identified four sets of issues that together represent an enormous challenge to the international LIS community. A number of Geneva action lines have been identified that are relevant to these issues. Focusing on these action lines will help the world's library and information workers to utilize the momentum that was gained during the WSIS process in their advocacy for libraries. Such advocacy should emphasise the central place of libraries and information service in the Knowledge Society.

- Annan, K. 2003. [Preface] In: *The Geneva Declaration of Principles and Plan of Action*. Geneva: WSIS Executive Secretariat.
- BBC News. 2006. Warning over African Internet Cable. URL: <http://news.bbc.co.uk/2/hi/africa/4787422.stm> [viewed October 3, 2006].
- Berry, J.W. 2006. The World Summit on the Information Society (WSIS): A global challenge in the new Millennium. *Libri* 56(1): 1–15.
- Breycha-Vauthier, A.C. 1977. "IFLA – the Geneva years". In: Koops, W.R.H. and J. Wieder, ed. *IFLA's first fifty years: Achievements and challenges in international librarianship*. Munich: Verlag Dokumentation: 80–82.
- Britz, J.J., and P.J. Lor. 2003. A moral reflection on the information flow from south to north: An African perspective. *Libri* 53(3): 160–173.
- Britz, J.J., P.J. Lor, and T.D. Bothma. 2006. Global capitalism and the fair distribution of information in the marketplace. *Journal of Information Ethics* 15(1): 60–69.
- Britz, J.J., P.J. Lor, E. Coetzee, and B. Bester. 2006. Africa as a knowledge society: A reality check. *International Information and Library Review* 38(2006): 25–40.
- Byrne, A., M. Koren, R. Shimmon, and W. Vitzansky. 2004. IFLA and the World Summit on the information society. *IFLA Journal* 30(1): 71–72.
- Digital Solidarity Fund. 2006. *Creation of the Digital Solidarity Fund Foundation*. URL: <http://www.dsfsn.org/en/04-en.htm> [viewed October 2, 2006].
- EBLIDA 2006. European Bureau of Library, Information and Documentation Associations (EBLIDA). URL: <http://www.eblida.org/> [viewed October 2, 2006].
- Geist, M. 2006. Switch Off Sought for TV Treaty. BBC News. URL: <http://news.bbc.co.uk/2/hi/technology/5346154.stm> [viewed October 3, 2006].
- Haavisto, T., and P.J. Lor. 2006. *IFLA in Action at WSIS*. IFLANET. URL: <http://www.ifla.org/III/wsis/WSIS-report27-01-2006.html> [viewed January 3, 2006].
- IFLA. 2002. *The IFLA Internet Manifesto*. URL: <http://www.ifla.org/III/misc/im-e.htm> [viewed September 9, 2005].
- IFLA. 2005a. *Alexandria Manifesto on Libraries, the Information Society in Action*. URL: <http://www.ifla.org/III/wsis/AlexandriaManifesto.html> [viewed September 21, 2006].
- IFLA 2005b. *Beacons of the Information Society: The Alexandria Proclamation on Information Literacy and Life-*

- long Learning. URL: <http://www.ifla.org/III/wsis/BeaconInfSoc.html> [viewed September 6, 2006].
- IFLA 2005c. *Committee on Copyright and other Legal Matters: Press Release by IFLA/CLM and eIFL*. URL: <http://www.ifla.org/III/clm/p1/CLM-pr16082005.htm> [viewed October 2, 2006].
- IFLA 2005d. *IFLA position on Internet governance*. URL: <http://www.ifla.org/III/wsis/InternetGovernance.html> [viewed October 2, 2006].
- IFLA 2006a. *Committee on Copyright and other Legal Matters*. URL: <http://www.ifla.org/III/clm/copyr.htm> [viewed October 2, 2006].
- IFLA 2006b. *IFLA committee on Free Access to Information and Freedom of Expression (FAIFE)*. URL: <http://www.ifla.org/faife/> [viewed October 2, 2006].
- International Telecommunication Union. 2004a. *Africa, ICT indicators, 2003*. URL: http://www.itu.int/ITU-D/ict/statistics/at_glance/af_ictindicators.html [viewed September 4, 2006].
- International Telecommunication Union. 2004b. *ICT Indicators, 2003: Europe and CIS*. URL: http://www.itu.int/ITU-D/ict/statistics/at_glance/E2_EuropeICTIndicators_2003.pdf [viewed September 4, 2006].
- Internet World Stats. 2006. *Internet Usage Statistics for Africa*. URL: <http://www.internetworldstats.com/stats1.htm> [viewed September 4, 2006].
- Kanellos, M. 2004. *A billion PC Users on the Way*. URL: http://news.zdnet.com/2100-9584_22-5290988.html [viewed September 5, 2006].
- Lipinski, T., and J.J. Britz. 2002. *Deconstructing and reconstructing the protection of indigenous knowledge in a global marketplace: legal and ethical implications of North American, South African and other case studies*. Milwaukee: Center for International Education, University of Wisconsin-Milwaukee, Occasional papers, 2001-01.
- Lor, P.J., and J.J. Britz. 2004. Digitisation of Africa's documentary heritage: Aid or exploitation? *Journal of Information Ethics* (Fall): 78–93.
- Lor, P.J., and J.J. Britz. 2005. Knowledge production from an African perspective: International information flows and intellectual property. *International Information & Library Review* 37: 61–76.
- Lor, P.J., and J.J. Britz. 2006. Information society, knowledge society: possible without freedom of information?: A moral and pragmatic reflection. *Journal of Information Science*, in press.
- Middleton, M. 2000. Self Service: What is the Function of the New Intermediary? In: *Proceedings of the ALIA 2000 Conference: Capitalizing on Knowledge; the Information Profession in the 21st Century*. 24–26 October 2000, Canberra, Australia. URL: <http://conferences.alia.org.au/alia2000/proceedings/michael.middleton.html> [viewed October 2, 2006].
- Norris, P. 2001. *Digital divide: Civic engagement, information poverty, and the internet worldwide*. Cambridge: Cambridge University Press.
- Shimmon, R. 2004. The international committee of the Blue Shield 1998–2004: An overview. *Alexandria* 16(3): 133–141.
- Tsebe, J. 2005. *Networking Digital Heritage: Africa*. In: *Proceedings of the IFLA World Library and Information Congress. 14–18 August 2005*. Norway: Oslo. URL: <http://www.ifla.org/IV/ifla71/papers/157e-Tsebe.pdf> [viewed September 4, 2006].
- UNESCO. 2006. *Convention on the protection and promotion of the diversity of cultural expressions*. URL: http://portal.unesco.org/culture/en/ev.php-URL_ID=11281&URL_DO=DO_TOPIC&URL_SECTION=201.html [viewed October 2, 2006].
- United Nations. 1948. *Universal Declaration of Human Rights*. URL: <http://www.un.org/Overview/rights.html> [viewed October 2, 2006].
- Wade, A. 2003. Digital Solidarity and the Digital Gap. In: *United Nations Information and Communication Technologies Task Force*. URL: <http://www.unicttaskforce.org/news/digitalsolidarity.html> [viewed October 2, 2006].
- Wieder, J. 1977. An outline of IFLA's history. In: Koops, WRH and Wieder, J, ed. *IFLA's first fifty years: achievements and challenges in international librarianship*. Munich: Verlag Dokumentation: 11–55.
- Wieder, J., and H. Campbell. 2002. "IFLA's first fifty years: A reprise. *IFLA Journal* 28(3): 107–117.
- Wikipedia. 2006a. *Mao Zedong*. URL: http://en.wikipedia.org/wiki/Mao_Zedong [viewed October 3, 2006].
- Wikipedia. 2006b. *Mohammad Khatami*. URL: http://en.wikipedia.org/wiki/Mohammad_Khatami [viewed October 3, 2006].
- WSIS. 2003. *The Geneva declaration of principles and plan of action*. Geneva: WSIS Executive Secretariat.
- WSIS. 2005a. *Tunis Agenda for the Information Society*. WSIS-05/TUNIS/DOC/6 (rev. 1), URL: http://portal.unesco.org/ci/en/files/20687/11327453881_tunis_agenda_en.doc/tunis_agenda_en.doc [viewed September 21, 2006].
- WSIS. 2005b. *Tunis Commitment*. WSIS-05/TUNIS/DOC/7. URL: <http://www.itu.int/wsis/docs2/tunis/off/7.html> [viewed October 2, 2006].
- Zulu, B. 2006. *Africa: ITU Support for NEPAD*. URL: <http://allafrica.com/stories/200608110136.html> [viewed September 5, 2006].

Editorial history:

Paper received 16 February 2007;

Accepted 24 May 2007.