

**International Federation for Information Processing
General Assembly
(Natal, Brazil, 1-5 September 2001)**

**Information Society in Latin America and
UNESCO's Programmes**

Cláudio Menezes
Regional Adviser, Information Society Division
UNESCO-Montevideo
Avda. Brasil 2697, 11000-Montevideo, Uruguay
e-mail: informationsociety@unesco.org.uy
url: <http://www.unesco.org.uy>

- I. A Brief Overview on the Information Society

- II. Some Elements on the Information Society in Latin America
 1. The Internet: Some Key data
 2. Telecommunications
 3. Information Sciences and the Information Society
 4. Government
 5. Internet-2

- III. UNESCO: Recent Developments and Programme Activities
 1. On-Going programme activities
 2. Information for All Programme
 3. Other UNESCO Programmes
 4. The Near Future

- IV. Conclusions

I. A Brief Overview on the Information Society

In a recent address during the “6th International Olympiad of the Mind” (Paris, 16-17 November 2000)¹, Mr. Ben Ngubane, Minister of Arts, Culture, Science and Technology, South Africa, quotes the economist Lester Thurow by saying that “In Thurow’s lexicon the second industrial revolution was the information age and now for the first time in history, great wealth will increasingly depend upon the control of knowledge, not the control of natural resources such as land, gold and oil”. In the same article, Minister Ngubane makes use of 1999 UNDP Human Development Report to warn on “global inequalities”, which have been growing with globalization at an accelerated rate (both within and between) countries. Reference is also made to inequalities of access to the Internet and its implication on access to information of all nature.

In the same token, a document that in my opinion is pertinent both to scholars, politicians and policy makers is “The Green Paper on the Information Society in Portugal”². It addresses eleven major information society areas, namely:

1. The Democratic Character of the Information Society
2. Open Government
3. The Knowledge Available
4. Connected Schools: Learning in the Information Society
5. The Business Enterprise in the Information Society
6. Employment in the Information Society
7. The Market and the Information Society
8. Social Implications of the Information Society
9. The Legal Implications of the Information Society
10. TheG National Information Infrastructure
11. Research and Development in the Information Society

More recently, referring to the so-called “digital divide”, Philippe Quéau³, the Director of UNESCO’s Information Society Division, underlines: “One cannot compare knowledge to other commodities. Knowledge has very specific properties, very different from the outputs of the industrial model. Like fire, it can spread quickly, at almost no cost, with the proper winds. The “net-economy” shows that knowledge can allow extremely high returns, or none at all. Besides one can argue that knowledge is really not a product but a mindset. It may even be a way of life, as scholars show. It may have strong non-linear effects, deep social and political impacts. This is why the so-called “Digital Divide” is in essence a social and economic divide that only gets aggravated by the mere power of IT.”

National and international organizations have also addressed matters related to Information Society or its more idealistic version: the Knowledge Society. In this particular, attention should be paid to the document “Policy Recommendations for Action”⁴, issued during the Meeting of OECD Council in 1995. In that meeting, OECD Ministers considered that the development of a networked-based information economy requires:

- The availability and diffusion of high-speed interactive infrastructures
- Fair access to and use of infrastructures for both customers and service providers
- The interconnection and interoperability of infrastructures and services
- Growth and development of multimedia services
- Transaction and information safeguards which ensure privacy, confidentiality of information, and security of payments and protection of intellectual property.

In UNESCO, the “Information Society Observatory”⁵ and the Report “National Informatics Policies and Strategies”⁶ provide a relevant set of information and documents for people responsible for information society planning.

Given its importance to developing country policies, I wish to draw the attention of the audience to two recent important international initiatives that are relevant to the objectives of this Conference:

- Information and Communication Technologies (ICT) Taskforce, which issued a Report⁷ of the Secretary General to be examined in the forthcoming ECOSOC Meeting, on 3-4 May 2001 (Agenda item 2)
- Okinawa Charter on Information Society and the establishment of a Digital Opportunity Taskforce (DOT)⁸

Both initiatives address specifics on “Digital Divide” and DOT covers broader aspects of international cooperation on the information society issues, for which all of us should be aware of.

II. Some Elements on the Information Society in Latin America

1. The Internet: Some Key Data

The Tables 1, 2, 3 and 4 below (Number of Users Connected to the Internet in the World (March/2001), Number of Hosts per Country in the World: January 1999, Number of Hosts per Country in the World: January 2000, Number of Hosts per Country in the Americas: January 1999)⁹ provide some data on the situation in Latin America as far as the Internet is concerned.

Table 1: Users connected to the Internet in the world (March/01)

<i>World total</i>	<i>407.1 million</i>
Africa	3.11 million
Asia/Pacific	104.88 million
Europe	113.14 million
Middle East	2.40 million
Canada and USA	167.12 million
Latin America	16.45 million

Source: http://www.nua.ie/surveys/how_many_online/index.html

Evolution of the Internet in the world

**Table 2: Classification of countries by number of Hosts
(Jan/99)**

1	United States	34.980.236	16	Taiwan	320.327
2	Japan	1.718.935	17	Belgium	255.739
3	United Kingdom	1.692.305	18	Brazil	224.916
4	Canada	1.584.273	19	South Africa	219.420
5	Germany	1.375.114	20	Austria	212.049
6	Australia	858.380	21	Korea	195.782
7	The Netherlands	576.161	22	Russia	155.246
8	France	571.220	23	New Zealand	142.952
9	Finland	558.913	24	Mexico	120.967
10	Sweden	444.751	25	Poland	116.946
11	Italy	370.629	26	Singapore	112.570
12	Norway	326.305	27	Israel	103.068
13	Denmark	293.778	28	Hungary	87.263
14	Spain	270.352	29	Hong Kong	84.008
15	Switzerland	232.139	30	Czech Republic	79.597

Source: <http://www.nua.ie/surveys/>

Evolution of the Internet in the world

**Table 3: Classification of countries by number of Hosts
(Jan/00)**

1	United States	53.167.229	16	Norway	401.889
2	Japan	2.636.541	17	Denmark	336.928
3	United Kingdom	1.901.812	18	Belgium	320.840
4	Germany	1.702.486	19	Switzerland	306.073
5	Canada	1.669.664	20	Korea	283.459
6	Australia	1.090.468	21	Austria	274.173
7	The Netherlands	820.944	22	New Zealand	271.003
8	France	779.879	23	Russia	214.704
9	Italy	658.307	24	Poland	183.057
10	Finland	631.248	25	South Africa	167.635
11	Taiwan	597.036	26	Singapore	148.249
12	Sweden	594.627	27	Argentina	142.470
13	Brazil	446.444	28	Israel	139.946
14	Spain	415.641	29	Hong Kong	114.882
15	Mexico	404.873	30	Hongary	113.695

Source: <http://www.nua.ie/surveys/>

**Table 4: Classification of American countries
by number of Hosts (Jan/99)**

1	United States	34.980.236
2	Canada	1.584.273
3	Brazil	224.916
4	Mexico	120.967
5	Argentina	68.978
6	Chile	31.083
7	Uruguay	16.823
8	Colombia	16.322
9	Venezuela	8.189
10	Peru	5.118
11	Dominican Republic	4.851
12	Costa Rica	3.357
13	Ecuador	1.566
14	Paraguay	1.157
15	Guatemala	926

Source: <http://www.nua.ie/surveys/>

The situation slightly improved from 1999 to 2000. Brazil (13th), Mexico (15th) and Argentina (27th) are now among the 30 best ranked countries in January, 2000. The situation in the Americas varied from 926 hosts in Guatemala to 34,980,236 in the United States, followed by Canada with 1,584,273 hosts in 1999. In Latin America, Brazil, Mexico, Argentina and Chile are the best ranked in 1999, in absolute terms.

Due to the success of the Internet, it is very common to omit many relevant aspects for information society planning. As a matter of fact, Information Society relates not only to the Internet development or to information infrastructure, but also to other parameters. In the Information Society Index (ISI) designed by the International Data Corporation, the following variables are taken into consideration: secondary education, university education, newspaper readership, press freedom, civil liberties, telephone lines, lack of telephones, possession of radio, possession of TV, possession of fax, cellular telephones, access to cable/satellite, PCs installed, PCs in home, PCs in government/companies, PCs in education, % of PCs in networks, Hardware/Software, Internet providers and Internet hosts.

The Region ranked close to the world average for a number of social criteria (freedom of press, civil liberties and secondary education), for one computing infrastructure criterion (percentage of PCs in networks) and for one information infrastructure criterion (access to cable/satellite). For the remaining factors, the Region is below the world average, and far below the position of developed countries such as the United States. As shown on Tables 5 and 6, the same study indicates that in 1999 the top ten Latin American countries in the ISI index are: Chile, Argentina, Costa Rica, Panama, Venezuela, Brazil, Ecuador, Mexico, Colombia and Peru.

Table 5: Ranking of the top ten Latin American countries in the ISI index

Country	Position 1996	Country	Position 1997	Country	Position 1999
Argentina	30	Argentina	31	Chile	32
Chile	31	Chile	32	Argentina	33
Venezuela	34	Brazil	36	Costa Rica	34
Brazil	38	Colombia	38	Panama	37
Costa Rica	39	Venezuela	39	Venezuela	39
Panama	40	Costa Rica	40	Brazil	42
Mexico	41	Mexico	41	Ecuador	43
Colombia	44	Ecuador	42	Mexico	44
Ecuador	46	Panama	43	Colombia	46
Peru	49	Peru	48	Peru	53

Source: International Data Corporation/World Times (Gil, 1998) from World Communication and Information Report (1999-2000)

As you can see, there have been some changes in 1999 vis-à-vis the former years, the most important being the modification of Brazil position in the ISI ranking.

2. Telecommunications

The main change in telecommunications has been the new policies in the economic regulatory process inaugurated in this decade. During the International Telecommunication Union Conference in Buenos Aires, Mr. Albert Gore enunciated the Global Information Infrastructure principles.

According to the “World Information and Communication Report”, two of the main factors driving growth in the telecommunications industry in the world as a whole, and in the Latin America and the Caribbean Region in particular, are the Internet plus the mobile computing technologies and wireless communications. These two areas of technology are enjoying the most rapidly accelerating growth in the telecommunications industry. The growth of cellular telephony is remarkable, particularly in developing countries like those of the Region, where it is being used as a substitute for traditional telephony; whereas in developed ones it is being used to complement it. The underdevelopment of traditional telephony in developing countries and the inadequacy of the infrastructure used to provide this service have led to a growth in cellular telephony that is as extraordinary as unexpected.

3. Information Sciences and the Information Society

Over the years, scientific information needs have been a field insufficiently developed in Latin America and the Caribbean. Moreover, a certain conceptual confusion has been established between scientific information needs and library needs in the Region. Scientific information needs are addressed mainly to the scientific community, while traditional library users have specific information needs. Another concept that has not helped derives from the fact that some traditional libraries in the Region have not been equipped to take full advantage of new modern software and information technology for its modernization. They also have had poorly interaction with computerized information systems specialists within an adequate pattern to enhance cross-cooperation of different professional skills.

A relevant experience on digitized scientific information nowadays is lead by BIREME (<http://www.bireme.br>), the Regional Center on Health Sciences, in particular through the project SCIELO – a cooperative multilingual model for electronic publishing of scientific journals on the Internet - and The Virtual Health Library which represents an expansion of the current model of technical cooperation in health sciences information by promoting the production of multimedia information sources connected in network with direct and universal access with no geographical or time barriers.

Libraries and other institutions and technical groups should take advantage of the following factors to start regional cooperation: the recent privatization process in the telecommunications sector; the moves to deregulate the telecommunications industry in certain countries; the technical and political efforts made by libraries to overcome financial and cultural obstacles and programmes implemented by regional institutions such as UNESCO's Information for All.

The extraordinary growth in the use the Internet is definitely strengthening co-operation not only among libraries but also among scientific thematic networks.

Education of information science professionals also suffer from lack of knowledge regarding the use of new technologies and only now curricula are being updated at large.

Some initiatives on information services or “networks” are relevant in the Region: CLACSO (<http://www.clacso.org>) in social sciences, BIREME in health sciences, REDUC (<http://www.reduc.cl>) in Education, INFOPLAN and CARISPLAN (<http://searcher.eclacpos.org/copac.htm>) in planning, UNESCO's INFOLAC (<http://infolac.ucol.mx>), and REPIDISCA (<http://www.cepis.ops.oms.org>) in sanitary engineering.

4. Government

In the recent years, some Latin American governments have launched processes or Information Society programmes aiming at having an holistic and financial vision to integrate the theme into the development plans and national budgets.

Chile has been pioneer on this matter through its “Information Society Initiative” launched by the Presidential Commission for the National Information Infrastructure. The Chilean initiative succeeded in being adopted as a national policy and can be considered as a good example of “wise practices” in Information Society governmental planning. Detailed information is available at <http://200.28.221.159/resumen.htm> as well as in the document "Chile: Moving towards the Information Society" (“Chile: Hacia la Sociedad de la Información”)¹⁰.

Mexico has long ago set up a national informatics commission, a think-tank to plan the national information technology policy. The country implements the Informatics National Plan through several national institutions. INEGI/DNPI acts as national coordinator for informatics policy and has played an active role in the Region and promoted with UNESCO in 1999 a very important Latin American and Caribbean Symposium on Information Technologies in the Society, SimpLAC 99¹¹. A new edition of this event – SimpLac2002 – takes place in Cuba next year¹².

Brazil has also last year put forward its “Green Book on Information Society”¹³, now under public discussion. The “Green Book” tackles many relevant issues such as: Market, Work and Opportunities, Universal Services and Citizenship Training, Education for Information Society, Contents and Cultural Identity, Govern at Reach of All, Key-Technologies and Applications, and Advanced Infra-structure and New Services.

Jamaica is achieving “the completion of the first phase of the “National Strategic Plan for Information Technology” as underlined in our brochure. The country is embarking in a 2nd phase of the Plan which calls for the formulation of detailed plans for each sector.

Other countries have given course to sectoral initiatives to take advantage of the information technologies as well as to prevent shortfalls and social impacts as reported during the XVIII and XIX Ibero-American Conference of Informatics Authorities-CAIBI¹⁴ (Panama City, 28-29 September 2000 and Santo Domingo, 27-28 September 2001).

These national initiatives show that a strategic vision towards Information Society is gradually being built up in all Latin America and the Caribbean countries.

The help of international development banks, such as the Interamerican Development Bank¹⁵ and the Caribbean Development Bank¹⁶, and international organizations¹⁷ would be instrumental to disseminate a strategic vision on the Information Society in the Region, and to impact positively on people’s life as well.

It will also be relevant to governments, stakeholders and other actors to take a more active part in the global governance fora pushing to reflect their views on the global governance.

5. Internet-2

Internet-2¹⁸ is a consortium being led by more than 180 universities as to April/2000 working in partnership with industry and government to develop and deploy advanced network applications and technologies, accelerating the creation of tomorrow's Internet. Internet-2 is recreating the partnership among academia, industry and government that fostered today’s Internet in its infancy. The primary goals of Internet-2 are to:

- Create a leading edge network capability for the national research community
- Enable revolutionary Internet applications
- Ensure the rapid transfer of new network services and applications to the broader Internet community

Several applications for high speed networks are being developed in Internet-2. The more important lines of research in this moment are:

- Tele-Immersion
- Virtual Laboratories and Collaborative Environments
- Digital Libraries
- Distributed Instruction or LearningWare.

Other applications are also being discussed in working groups and initiatives such as: Health Sciences Initiatives, Arts and Humanities Initiatives, Digital Video Initiative, Multicast Working Group, Digital Imaging Working Group, Voice over IP Working Group, Distributed Storage Infrastructure Project, Research Channel Consortium .

The main Internet-2 focus is the development of advanced application with intensive use of multimedia technologies in real time.

III. UNESCO: Recent Developments and Programme Activities

1. On-going Programme Activities

The Information Society Division presently coordinates actions on:

Information: Policies and Strategies; Public Domain Information; Legal and Ethical Issues and Archives and Libraries.

Informatics and Infostructure: Network Development; Virtual Communities; Information Management Tools and Training.

For example, in the field of policies and strategies a preliminary report on “Promotions and Use of Multilingualism and Universal Access to Cyberspace” has been prepared. Such report covers four main themes: Facilitating access to telematics services; promoting multilingualism; Facilitating access through development of public domain contents and Facilitating access through application of exceptions to copyright. It was discussed during the recent UNESCO Executive Board in May 2001, and a resolution on this matter is expected during the 31st UNESCO General Conference¹⁹.

You may also be aware of the “Global Survey on On-line Governance”, a joint venture organized by COMNET-IT and UNESCO. This survey data, available at <http://www.comnet.mt/Unesco>, and its “Final Report” give an interesting panorama of IT in governments and will contribute to the objectives of this event. In the same connection, UNESCO has regularly supported the Ibero-American Conference of Informatics Authorities²⁰, a Forum on IT in public administration, similar to International Council for IT Government Administration (ICA)²¹.

The “community media telecentres” is another good example of on-going UNESCO activities within “informatics and infostructures area” in Information Society Division. A brochure on telecentres is available for distribution.

Many other activities are implemented through the Information Society Division as thoroughly described at <http://www.unesco.org/webworld>. And <http://www.unesco.org.uy>.

2. Information for All Programme

The Information for All Programme²² is structured in Objectives, Visions and Values presented as follows:

Objectives

- To promote international reflection and debate on the ethical, legal and socio-cultural challenges of the Information Society;
- To encourage access to public domain information through organization, preservation and digitization;
- To support training, continuing education and life-long learning in the area of information and informatics;
- To promote the use of standards and best practices in information and informatics applicable to UNESCO's areas of competence;
- To promote networking at the regional, national and international levels.

Visions

- The Programme is to ensure that everyone has access to the information they need to participate equitably in a global Information Society and to pursue objective truth as well as the free exchange of ideas and knowledge;
- The Programme shall enhance the well-being of every man and every woman, enabling them to contribute to and fully enjoy their culture;
- The Programme is to develop an appropriate infostructure for the preservation and global sharing of information and knowledge by citizens of all countries.

Values

- Information and knowledge constitute a global public good and are essential for advancing education, science and culture as well as for fostering democracy; information and knowledge are also instrumental to bridging the gap between the information rich and information poor;
- Free and universal access to information is a fundamental human right, as it allows people to freely participate in the cultural life of the global community, to enjoy the arts, and to share scientific advancements;
- Information preservation, access and processing in the Information Society have a strong ethical dimension and create global moral responsibilities;
- The quality, reliability and diversity of information are of utmost importance;
- Free and universal access to information is indispensable for cultural diversity and for the preservation of the heritage of nations;
- The preservation of the information heritage of nations in its traditional and new forms is an important condition for free and universal access;
- Intellectual property regimes must carefully balance the rights of authors and creators with the public interest to reward creation, research and innovation

while ensuring widespread access to knowledge and protection against monopoly rents;

- Privacy and security of personal data in the Information Society must be considered as crucial for the protection of human dignity.

3. Other UNESCO Programmes

In the field of natural and human sciences, UNESCO also implements the following programmes:

- The Man and the Biosphere (MAB)²³
- Intergovernmental Oceanographic Commission (IOC)²⁴
- International Geological Correlation Programme (IGCP)²⁵
- International Hydrologic Programme (IHP)²⁶
- Management of the Social Transformations – MOST²⁷

It seems necessary a strong participation of scientists and policy makers in the new programme, otherwise their views will not be reflected in the activities, projects and programmes in the “Information for All”. It is equally important to make sure that scientific information will have an important place in the forthcoming UNESCO activities both in each of the scientific programmes as well as in the “Information for All”.

4. The Near Future

In the framework of UNESCO’s strategic planning for 2002-2007 and its programme and budget for 2002-2003, Director General, Ambassador Koïchiro Matsuura has proposed to focus the ICTs Organization actions in two priority areas:

- Access to information, particularly in the public domain (Major Programme V: Communication and Information)
- Information and Communication Technologies in Education, Science and Culture in the Knowledge Society (transversal theme).

In this context, an internal bidding exercise has been carried out to collect staff proposals on “ICT projects” (one “cross-cutting” priority area. UNESCO-Montevideo pledged resources for five new projects: Information Society Planning in LAC (ISP-LAC), Telecentres and Libraries Network for Education and Culture in MERCOSUL, Digital Library for Science and Technology in LAC, LAC Virtual Campus Observatory and Virtual School of Water and Environment of Humid Tropic.

A high-level internal committee composed by all Assistant Director Generals (ADGs) has decided to include some of these proposals in the 2002-2003 proposed programme and budget, for approval by the 31st. General Conference in October 2001. The other proposals can be submitted to extra-budgetary financial sources.

IV. Conclusions

The last decades have experienced many paradigm changes, both, technological and educational, cultural, political, economical as well as regulatory.

In the field of the information technology, we have experienced the era of mainframes, the boom of the micro-informatics and now the networking and the Internet are dominant. In the field of the operating systems, we also have seen an important shift from the proprietary operating systems towards the open source codes and particularly Linux being adopted by computer manufacturers. Can we expect a shift in the information area and more emphasis on international cooperation in the field of scientific and technological information?

I would foresee a strong movement of decentralization of information towards end users. It is possible to foresee that telecentres and other gateways to the Information Society gradually play an important role in the Information Society. University and research centers will continue to be important information providers. Traditional libraries will probably lose their monopoly in the same pattern as happened to the big computer centers based on mainframe and proprietary architectures.

In UNESCO, we hope that the new “Information for All” Programme will help in the modernization of libraries, archives, information centers and other gateways to the Information Society. We hope that it will be an important forum for debate on relevant issues of the Information Society, to counter-fire “cyber demagoguery”. We hope that UNESCO will give an important contribution to public domain in the scientific fields, particularly in cooperation with the already existing scientific programmes.

Finally, we believe that careful information society planning processes should be put in place by governments in cooperation with all players and stakeholders to ensure some seats for developing countries in the information society “business class”.

“If the knowledge societies are ever to take proper root and gain global acceptance, we must look beyond the technical and gadget appeal of ICTs and home in on the human dimensions of the digital divide: cultural and linguistic diversity of contents, empowerment of civil society, privacy and ethical issues, and access, especially by safeguarding the public domain.

There will be *no information for all* without *education for all*. This is top priority. For the public and the private sectors alike. The business community is increasingly concerned about the future of education systems. The Education for All agenda, adopted last year in Dakar, aims at combating poverty and ensuring development and growth through an expansion of educational attainment and quality. UNESCO is the UN system’s lead agency here. We are determined to harness ICTs to the full in translating the lofty political goals into practical and tangible progress on the ground.

Koichiro Matsuura

at the Special Session on Global Divide Initiative on the Annual Meeting of the World Economic Forum
Davos, Switzerland, 29 January 2001

-
- ¹ Ngubane, Ben, The Communication Civilisation, A Blessing or a Curse, 6th Olympiad of the Mind (Paris, 16.17 November 2000), <http://www.comnet.mt/news>
- ² The Green Paper on the Information Society in Portugal, 1997. Mission for the Information Society, Ministry of Science and Technology, ISBN 972-97349-17.
- ³ Quéau, Philippe, Governing the Global Knowledge Society, in <http://www.unesco.org/webworld>
- ⁴ Appendix: Global Information Infrastructure-Global Information Society (GII-GIS), in Science, Technology, Industry. Review N. 20. 1997. Organization for the Economic Co-operation and Development
- ⁵ <http://www.unesco.org/webworld> or <http://mirror-us.unesco.org/webworld/observatory/index.html>
- ⁶ <http://www.unesco.org/webworld/highlights/fid-study.rtf>
- ⁷ Information and Communication Technologies (ICT) Task Force, Report E/2001/7, 20 February 2001, <http://www.un.org/documents/ecosoc/docs/2000/e2000-52.pdf> and <http://www.un.org/esa/coordination/ecosoc/itforum/expert.htm>
- ⁸ Okinawa Chamber on Global Information Society, <http://www.g8kynshu-okinawa.go.jp/e/documents/it1.html>
- ⁹ UNESCO World Information and Communication Report, 1999-2000, UNESCO 1999, ISBN 92-3-103611-4
- ¹⁰ Chile: Hacia la Sociedad de la Información, <http://www.innovacion.cl/pnti.exe> or <http://200.28.221.159/infotec1.html>. English versión: Chile: Moving Towards the Information Society, <http://www.modernization.cl/ntic/cnntic/itreport.doc> or <http://www.modernizatin.cl/ntic/cnntic/itreport.zip>
- ¹¹ SimLAC Proceedings are available at <http://informatica.unesco.org.uy/espejos/www.inegi.gob.mx/informatica/espanol/simposio99/index.html> <http://www.inegi.gob.mx/informatica/espanol/simposio99/>
- ¹² <http://www.informatica2002.com> (provisional) and <http://www.unesco.org.uy>
- ¹³ Sociedade da Informação no Brasil-Livro Verde, Ministerio de Ciencia e Tecnología, Brasilia, Setembro 2000, <http://www.socinfo.org.br>, ISBN 85-88063-01-8.
- ¹⁴ XVII Ibero-American Conference of Informatics Authorities. See <http://www.map.es/csi/caibi/>
- ¹⁵ <http://iadb.org/regions/itdev>
- ¹⁶ <http://www.caribank.org>
- ¹⁷ UNESCO's Information Society Observatory at: <http://www.unesco.org/webworld/observatory/index.html> and its mirrors: <http://mirror-us.unesco.org/webworld> and <http://mirror-japan.unesco.org/webworld>
- ¹⁸ <http://www.internet2.edu>
- ¹⁹ <http://www.unesco.org>, 31C5 ... Multilingualism
- ²⁰ <http://www.map.es/csi/caibi/overview.htm>
- ²¹ <http://www.ica.ogo.gov.au/ica1/index.html>
- ²² <http://www.unesco.org/webworld/future> and its mirrors in U.S.A. and Japan
- ²³ <http://www.unesco.org/mab/>

²⁴ <http://ioc.unesco.org/iocweb/>

²⁵ <http://www.unesco.org/science/earthsciences/>

²⁶ <http://www.unesco.org.uy/phi.html>

²⁷ <http://www.unesco.org/most/>