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**CHALLENGES TO OVERCOME THE DIGITAL DIVIDE
IN BRAZIL: BUILDING AN AMAZONIAN DEVELOPMENT
INFORMATION NETWORK**

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Prepared for the 2001 INDEPENDENT SECTOR Spring Research Forum

*The Impact of Information Technology on Civil Society:
How will online innovation, philanthropy, and volunteerism serve the common good?*

Washington, DC
March 15 – 16, 2001

Challenges to Overcome the Digital Divide in Brazil:
Building An Amazonian Development Information Network

Dalberto Adulis

There are a consensual idea about the role that the new Information and Communication Technologies (ICTs) can perform in promoting social development and more democratic societies. The ICTs provide access to new information sources and communication tools. The Internet may contribute with Civil Society Organizations (CSOs) supporting mobilization, communication, networking, fundraising and lobby activities. When strategically used the Internet can strengthen the civil society organization networks making easier the sharing information process and stimulating partnerships.

However, it is important to note that the majority of the promises related to new information and communication technology, such as the democratization of knowledge and equalization of opportunity, may only benefit societies that are capable of harnessing these resources, increasing the gap between the center and the periphery. “Instead of fostering a new equilibrium among countries, the ICT revolution may be widening the gap between the “haves” and the “have nots,” and creating a divide that may prove extremely difficult to close” (Jurich, 2000).

This process is creating a stratified world of information-rich and information-poor, reinforcing the existing disparities between developed and underdeveloped countries. The Digital Divide Network refers to the Digital Divide as “a gap between those who can effectively use new information and communication tools, such as the Internet, and those who cannot”. Some statistics may highlight the digital divide across the world.

One third of the world's population hasn't access to electricity. More than 50 % of the world's people never even used a telephone. There is more telephone lines in Manhattan or Tokyo than in the African continent. High-income countries have 50 telephone lines per 100 inhabitants and many low-income countries have less than one telephone line per 100. More than 70% of Internet users are in North America and Europe, but only 5% in Latin America and Africa (table 1 annexed).

The current inequalities in access and use of ICTs show that the poor countries may not be able to overcome the financial and technical obstacles that hamper their access to the new technologies. There are serious risks that the use of the ICTs increase the digital divide and new forms of exclusion, and "at present there are no realistic prospects that the relations between ICT-rich and ICT-poor countries will change in the near future". (Hamelink, 1998). For the French philosopher Philippe Breton, that criticizes the "cult of the Internet", "we can fear that the new world, far from reducing the inequalities in knowledge access, is reinforcing the layers of inequalities already presents" (Breton, 2000).

For the Internet to be socially beneficial, it needs to be used for alleviating poverty, improving access to health care and education, conserving and fairly distributing resources, and strengthening participation in decision-making process. (Uimonen, 1998).

Academics and practitioners from African Countries, like Kweku Appia, recognize that ICTs offer a significant window of opportunity for developing countries to accelerate their development in all spheres of economic and social activity and to narrow the gap between countries. "However, the changes engendered by the Internet have been to the exclusion of the very poor people in developing countries that Internet could particularly benefit".(Appia, 1998).

The digital divide exists not only between nations, but also within individual countries. The Internet access is strongly correlated with income, education, race, ethnicity and geographic location. The efforts from the U.S.A. government and others organizations to bridge the digital divide and their accomplishments are in the new report from the President Clinton Administration E-commerce Working Group, "¹.

But if we find digital divide in a wealthy country like the United States, “what does that say about developing countries, many of which are struggling to meet the survival needs of their populations? (Jurich, 2000). For combat the digital divide each government have an important role in guiding their countries to a more equitable society and “strong policy action is needed nationally and internationally to ensure that the new rules of globalization are framed to turn the new technologies towards people’s needs” (UNDP, 1999),

Different approaches

The question of the information society had gain importance in the last years. Since the Global Infrastructure Project (GII) had been launched, in 1994, “there is an abundance of scenarios available that promise sustainable development, once digital highways have been constructed. The current highway utopias forecast radical changes in economics, politics and culture...but there are serious obstacles to the full realization of the empowerment potential of ICTs. (Hamelink, 1998). This technological determinism simplifies the reality, ignores the society and emphasizes historical discontinuity.

The problem of the digital divide for the “dominant vision” could be solved only by the universal access to the Internet. “From this perspective, once connectivity is achieved,

¹The report, called "Leadership for the New Millennium, Delivering on Digital Progress and Prosperity may be downloaded at <http://www.ecommerce.gov/ecomnews/ecommerce2000annual.pdf>.

everything else will fall into place spontaneously, i.e., appropriate uses, content creation, etc” (Martinez, 2000). Unfortunately, for some of them, the digital divide is viewed only as a new business opportunity to reach new markets that, until then, were incapable to join the worldwide consumption society².

But is only provide access to information and telecommunication services to every village may be useful to expand markets and promotes e-commerce, but is not enough to empower communities, promote social development or improve the lives of the poorest.

An alternative approach considers, in contrast, that any effort to close the digital divide must involve efforts to combat the remaining social gap. The digital divide is seen as the product of other gaps which if they are not attacked will continue to feed and even widen the digital divide, and vice versa. For these the Internet is not a principle in itself, determinant of change, but seen as a tool, a facilitator. In such vision the social context within the technologies are implemented that determines their usage and impacts.

In the most part of the developing countries the social and economic conditions are unfavorable that even when the infrastructure exists, the access isn't economically viable. In Brazil, for instance, where the average annual income is approximately US\$4.645, it may cost US\$ 1,200 to buy a personal computer with Internet connection. In addition, phone bills costs may exceed US\$ 200 per year. In the developing countries a solution to the access problem has been the adoption of community-based telecommunications centers, “ranging from a simple

² As published in a digital news bulletin: “Bridging the Digital Divide Can Yield Both Social and Monetary Benefits”. *SCOTTSDALE, Ariz., January 10, 2001*. In order to bridge the Digital Divide that exists between those who are able to get broadband Internet access and those who aren't, carriers must address the problem in a manner that will yield profit, according to Cahners In-Stat Group, a high-tech market research firm. http://www.instat.com/pr/2001/is0006ms_pr.htm

phone kiosk to a classroom-sized community access center with phones, computers, Internet access, and appropriate training” (McNamara, 2000)³.

In a recent issue of *Tecknowlogia*, an international journal of technologies for the advancement of knowledge and learning, Wadi Haddad declares that narrowing the divide does not automatically solve the problem because “the most serious divide is in the extent and quality of human knowledge and learning. It is not digital; it is educational. It is necessary but not sufficient to provide avenues to information and knowledge. What is more important is to empower people with appropriate educational, cognitive and behavioral skills and tools”.

The major challenges that confront developing countries in embracing modern ICT include the formulation and implementation of effective and practical strategies to enhance the capabilities of their population to make the best possible use of the information technology (Appiah, 1998). For Haddad (2000), people and CSOs in these countries must have adequate skills and tools for:

- access the information avenues efficiently, effectively and wisely;
- acquire, internalize and produce knowledge;
- produce and share content, related with their challenges and interests;
- apply knowledge to better understand the changing world, to develop their capabilities, to participate in development, to improve the quality of their lives, and to make informed decisions;
- and upgrade their knowledge continuously and systematically.

Without dominating the minimum capabilities to produce their own contents, the Internet users will be mere consumers, instead of real actors of the information society. How preserve the diversity in the Internet when the most part of the content still is in English? Despite the

³ Web site of the Latin American Telecenters Network (www.somos-telecentros.org).

tremendous influx of non-English languages in the recent years, the Internet remains dominated by the English language. The researches pursued by Daniel Pimienta between 1995 and 1998 examining the presence of Latin languages on the Internet show that these languages are deeply underrepresented (Funredes, 1998). The data shows (see table 3) that 75% of the WWW pages are in English, a language from 10,5% of the world population. All the Latin languages (French, Spanish, Portuguese, Italian and Rumanian) are underrepresented and the worst is the Portuguese: despite 3,17% of the world population speak Portuguese only 0,82% of the web pages are in such language.

The Digital Divide in Brazil

The process of economic globalization in course affects deeply the Latin American Countries. Since the beginning of the eighties those countries have adopting liberalization reforms associated with privatization programs and the reduction of the State. Nowadays the most part of the reports from multilateral organizations, as UNDP and World Bank, detach that the economic and social situation of these countries has gotten worse, with an absolute and relative growth in poverty, income concentration, labor conditions deterioration and growing of social exclusion. (Kliksberg, 1997).

In Brazil, the reforms movement has began in the 80's and became stronger with Collor and Fernando Henrique Cardoso governments, including economic/market opening, privatization and stabilization programs. Despite this reforms, Brazil continues marked by terrible social problems, with an increasing social. In terms on GNP Brazil is the 8th bigger economy in the world⁴, but the GNP per capita in only US\$ 4,630/year. Brazil is a country characterized by deep

⁴ 767,6 US\$ Billions. The GNP ranking is United States, Japan, Germany, France, United Kingdom, Italy and China.

social and economic inequalities and the worst share of income in all the world: the top 20% richest share 63,8% of the GDP, and the 20% poorest receive only 2,5 % of the GDP.

In the last Human Development Report, published by the UNDP in 2000, Brazil is considered as a medium human development country, with a HDI (Human Development Index) = 0,717. In the HDI ranking Brazil occupies the 67th position, below Colombia, Mexico, Uruguay, Chile and Argentina.

A major problem is education. In average, 15,5% of the population is completely illiterate⁵ and about 45% may be considered as functionally illiterate. In such scenario we can estimate the efforts that must be done to overcome the computer illiteracy in Brazil.

Infrastructure

The telecommunications infrastructure is critical for provide reasonable conditions of access to the Internet. The Brazilian sector of telecommunications was privatized in 1998, when the Federal Government created a National Regulatory Agency. It had an improvement in the covering of main and cellular telephone lines in the last years, but the provision of telephone lines in Brazil remains very unsatisfactory. “Brazil has the worst status among the 9 biggest economies in the world in terms of number of Internet users, personal computers, telephonic terminals and hosts per capita” (Afonso, 2000).

In Brazil there are 12,0 main phones lines and 4,7 cellular for each 100 inhabitants, compared to 66 and 25,6 in the U.S.A. (see table 2). There is a great inequality in their distribution and the majority of the telephone lines are located in the great urban centers, mainly in the southeast region. In rural and remote areas, like in the Amazonian one, the problems of

⁵ 15% of the 15 years older population is unable to sign their own name.

telecommunications and electricity infrastructure are critical, but just at the moment the telecommunications companies don't have doing great efforts to alleviate these inequalities⁶

In Brazil the use and dissemination of computers also is critical. There are 3,1 computers for each 100 inhabitants, compared to 45,9 in U.S.A and 28,0 in the high IDH countries. "The dissemination of computers is sharply mirrored by the income distribution. Most high and upper middle class families have computers at home, as well as some of the best private basic schools. In contrast, the use of computers is absent in the vast majority of public basic schools and computers are virtually a mystery, depicted only on TV, for most of the population" (Pinhanez, 1999). In the Amazonian Region the most part of the local public agencies do not have access to computers neither trained human resources to operate them.

Internet Access

The presumed number of individual users in the Internet in Brazil has varied of 5 the 7 million, depending on the source. In absolute numbers of Internet users Brazil has a respectable position: With more than 4. Millions of users Brazil is between the 12^o and the 14^o place in the world-wide ranking and the 1^o in Latin America, but in relative numbers, only 2% of the population have access to the Internet. With this weak percentage of users Brazil is the 4^o in Latin, compared to 41,4% in the U.S.A, 23,7% in UK, 8% in France, 3,3% in Uruguay and 3% in Chile. (Brazil, 2000).

In Brazil the dissemination of the Internet is restricted to the main municipalities and based on the individual access paradigm, prioritizing only the richest layers of the society. Less

⁶ The weakness of the private sector in provide telephonic access to the poorest is admitted by Charles Kenny "Despite the clear advantages of well-regulated private competition over government monopoly provision, the experience of Eastern Europe suggests that liberalization doesn't always increase household access to telephones. And the example of access to public phone boxes in Latin America suggests that basic reform alone is not sufficient to guarantee public access". Kenny et alii., 2000.

than 7% of the total of cities and towns have local commercial (or educational) dial-up access to the Internet. (Afonso, 2000). In the less developed regions, like the Amazonian, the conditions of access to the Internet are either worst. In urban centers like Boa Vista and Rio Branco, with 150 or 200 thousands inhabitants, the access to the Internet is a privilege of few, and in smaller cities is really a fiction. Although 10% of the Brazilians live in the Amazon region, only 1% of the Brazilian Internet Domain Names had been registered by the 9 states components of the Amazonian region⁷(see chart 1).

The Brazilian Information Society Project

After years of omission about the information society theme, the Federal Government finally has begun, in the last year, a process for draw the “Brazilian Information Society Program”. The green book of the program was published last December and the “white book” probably will be finished in July. The Program shows a comprehensive diagnostics of the Brazilian case and recognizes that the country needs public policies focused on the ICTs to bridge the digital divide and promotes social development (Afonso, 2000). The objective of the Program is: “to integrate, to coordinate and to foment actions for the use of information technologies and communication, contributing for the social inclusion of all the Brazilians in the new society and, at the same time, to contribute so that the economy of the Country has conditions to compete in the global market” (Brazil, 2000). The subprograms proposed are focuses on: Universal access and citizenship; education in the information society; cultural diversity and contents; digital government; market and labor opportunities; production, technology and applications; and advanced infrastructure and new services.

⁷ According the data of the Brazilian authority that register the “.BR” domain name.(03/2000)

The process has involved actors from the three sectors (government, private sector and civil society organizations) but, unfortunately, not so much as wished by the civil society organizations worried by the subject.

Another advancement recent was the approval of the Social Fund of Telecommunications by the National Congress. This fund, “based on 1% of net income deposited by telephonic companies and long distance carriers, will accumulate as much as US\$ 600 million per year, in the short term. This would be enough, for example, to install a total of 6,400 telecenters (at least one telecenter per group of 25,000 people) over a period of two to three years. However, installing telecenters is only part o the solution”. (RITS, 2000).

The Society Information Program and the Social Fund of Telecommunications may become two important tools for the Brazilians face the digital divide and occupies a space in the information society.

Internet and Third Sector in Brazil

Preliminary data of the third sector in Brazil indicate that it is larger that one would normally confer to it, not only in the gross internal product as well as in contributing to employment level. In 1998 the number of third sector organizations in Brazil was estimated in 200,000 entities (Landhim, 1998).

In order to participate in the planning, implementation and evaluation of public policies, CSOs must have access to information sources and communication tools that allow the establishment of partnerships between different social actors. Among the main problems that constrain the social programs management in Brazil are the lack of access to information; the

inability of organizations in accessing, utilizing and disseminating information; and the low level of interaction among social actors implementing the programs.

The use of new information technologies such as the Internet has been proved extremely useful to overcome these problems. The Internet allows breaking barriers of distance and time, facilitating communication process and the integration of people and organizations in networks. For CSOs the Internet may be a strategic tool for accessing, disseminating and sharing information, mobilization, networking, advocacy and fundraising,

Although these requirements can be assured by facilities provided by technological advances in telecommunication areas and information technology, its absorption by society depends on social, political and cultural patterns. While technology will extend the capabilities of the CSOs to reach across their traditional organizational boundaries in new ways, cooperation is still a human capability. The challenge for a network is to successfully focus on both the human-organizational issues in balance with the technological issues. Electronic networking can be used to reinforce human interaction and foster interactive learning, but doesn't assure organizational networking. The value of electronic networking lies not so much in the growing volume of information being exchanged each day but in the fact that it brings people together to build partnerships and coordinate action on common themes.

Despite the empowering potential of the Internet for CSOs, less than 2% of the civil society organizations in Brazil use the Internet in any way, conform estimation carried out by the RITS⁸ (Information Network for the Third Sector). The most part of the Brazilian CSOs doesn't understand yet how the Internet could help them to achieve their goals toward the social development, and the majority hasn't enough resources for buy computers and pay the

⁸ . RITS is the only ONG dedicated to contribute to the empowerment of third sector organizations through provision and dissemination of digital information and communication technologies in Brazil.

connection costs. Unfortunately the exiguous programs focused on ICTs and social development doesn't strengthen the CSOs awareness process.

In the Amazonian region⁹, where the majority of the CSOs are grassroots organizations and small associations, only the biggest NGOs have full access to the Internet. The most part of the entities doesn't understand yet what is the Internet, or doesn't know how to connect in. The minority that knows the Internet don't have enough resources for get access or human resources trained for use it.

Building an Amazonian Social Development Network

The concept of the BIPSAM database had arisen 5 years after a study made in 1996 for the SUDAM (Superintendence of the Amazon Development), a federal autarchy linked to the Ministry of Planning, and supported by the UNDP (United Nations Development Program). This study has been dedicated to identify and study the governmental and non-governmental entities working in development projects in the region. The study showed that the CSOs in Amazonian often work in isolation and lack access to the information required and present two kinds of performance difficulties: 1 - Lack of transparency, mainly, in relation to the reporting on their performance results and the ways by which the funding resources were applied. 2 - Lack of ability to promote institutional articulations, through the participation of interchange networks, for the exchange of experience and information, or the creation of partnerships in the organizational processes.

⁹ The Brazilian Amazon is an enormous region, equivalent to half of the Brazilian territory and corresponding to 63% of the South American Amazon. A precise diagnosis about the quality of life of the population that inhabits the region is hard to be performed due to the lack of information; many times resulting from transportation difficulties which make some regions inaccessible. Several are the obstacles that aggravate the social exclusion problems in the region: lack of infrastructure; educational and health deficits; increase in rural exodus and poverty, misery and violence in the cities; existence of child labor and prostitution; competition for land and natural resources, and disrespect to basic human, political and social rights.

These difficulties cause a relative isolation of these organizations, making worse the management and execution of their activities. Usually the methodologies practiced are out-of-date and the fundraising activities are undeveloped. The evaluation systems often are informal and don't are measured by quantitative indicators.

In such situation the ICTs may assume an important role, improving the access to relevant information, enhancing communication and empowering organizations and individuals to better coordinate their energies on behalf of civil society. An another important outcome of the project was the publication of directories about 470 organizations and 823 projects carried out in the Region. They had been distributed in 1997 to all governmental and non-governmental participants of the project and it was made available to other interested organizations. Edited on paper, the data files were bulky, expensive and difficult to access. The data updating would find serious obstacles in relation to cost and time spent, leading it to the fate of fast obsolescence. And a very important weakness of the directories was their incapacity of stimulating interactivity, participation and institutional articulation, which is an essential aspect for the CSOs empowerment. These directories were the first sources of information for develop the BIPSAM (Interactive Bank of Social Projects in the Legal Amazon Region).

The objectives of the BIPSAM were: 1 – Build a Internet based database of organizations and projects related to sustainable social development in execution in the Legal Amazon Region. 2- Stimulate the creation of a network of governmental and non-governmental entities, integrating the different social actors. 3 - Initiate the development of an information network based on the Internet, democratizing information access and encouraging communication among the organizations.

The BIPSAM database encompasses information about organizations and projects envisaging social development in the Legal Amazonian. The registered entities comprise a wide range of organization, from governmental bodies to the various organizations and legal entities that constitute the third sector, such as: community associations, co-operatives, worker and manufacturers association etc. An especial emphasis is given to indications of partnership organizations; sources and resources allocated; strong and weak points, as well as the innovative work aspects. The database's structure makes possible to identify the partnerships and networks that already exist between the entities. The system assures the increase of transparency and exchange of experience, the diffusion of innovative practices, methodologies and concepts, the improvement of criteria and monitoring and evaluating mechanisms, and the full utilization of tools for organizational improvement.

The fieldwork for collects the information involved more than 200 technicians from 60 organizations. At the conclusion of the fieldwork the BIPSAM had information about 600 organizations and more than 1000 projects.

The project was conceived and developed in a decentralized approach, encouraging the articulation and participation of social agents. There were constituted nine "steering groups", composed by public organizations, CSOs and universities, that constitute the "nodes" of the network. Each "steering group contributes to the strengthening of an information network directed to social development, trying to identify existence of groups of organizations and people that form thematic networks, related to the different target-populations or social areas.

These groups would be involved in activities as: 1 - Participation at the survey to collect information to the database. 2 - Divulge the database and promote awareness building in the Internet among others organizations. 3 - Updating of the database information. 4 - Development

of new contents and services for the network, such as homepages, databases, newsletters, forum and discussion groups. 5- Design projects for increase and improve the Internet accesses conditions of the organizations. 6 - Design projects for training in Internet and ICTs to diminish the digital illiteracy

The formation of these groups has been the major challenge of the project, as: 1 - Lack of infrastructure (computers and Internet access); 2 – Weak awareness among the CSOs about the potential of the ICTs for their activities; 3 – Resistance in networking and share information, activities and resources; 4 - The inherent difficulties of the region such as long distances and transportation.

Conclusions and Perspectives

One of the most important activities carried out in the Amazonian region during the BIPSAM project were the awareness building workshops. The experience of conception and implementation of BIPSAM has demonstrated that the barriers can be overcome with investments in knowledge transfer, sensitization and training. BIPSAM is undergoing a phase of implementation which still requires efforts to be consolidated, mainly referring to overcoming cultural resistance. And the most part of the cultural resistance came from technicians from public or CSOs, which in many instances do not feel comfortable to use information or technology as strategic resources to leverage organizational performance.

The strategies to strengthen the BIPSAM network are directly associated with the proposals for overcome the digital divide:

1. Develop training programs for CSOs and public organization managers focused on ICTs, network and social development;

2. Develop projects for democratize the access conditions to the Internet; like telecenters;
3. Incentive community networking initiatives and the production of local contents;
4. Promote partnerships with other information resources in the Internet.

“If we do not make sure that the global revolution creates a society of global information in which everyone has a space for himself and be part of it, then in reality it would not have been a revolution at all”

Nelson Mandela - Telecom 95

References

- Afonso, Carlos A 2000. Infoinclusión en Brasil: los retos a enfrentar y el rol de las ongs. Working paper for the 2000 meeting, IDRC, September 2000. www.idrc.ca/pan
- Anderson, R. – Universal access to e-mail: feasibility and societal implications – Center of Information Revolution Analyses, Sta. Monica, EUA, 1995.
- Appiah, Kwaku. 1998. Developing participation in the Global Information Society. INFOETHICS 1998.
- Brazil, 2000. Sociedade da Informação no Brasil: Livro Verde. Ministério da Ciência e da Tecnologia. Setembro de 2000. www.socinfo.org.br
- Breton, Philippe. 2000. Le Culte de L'Internet: Une menace pour le lien social?. Éditions La Découverte. Paris.
- Fischer, R. M. et alii – Exclusão social na Amazônia Legal, report, SUDAM, Proj. BRA/93/041 – PNUD.
- Fischer, R.M and Adulis, D. (1998). The efforts of the NGOs in alleviating the social exclusion in Brazilian Amazon, Proceedings of 10 Annual Conference on Socio-Economics, Viena, Áustria,
- Funredes (1998). The Place of Latin Languages and Cultures on the Internet. <http://funredes.org/LC/english/L4index.html>
- Haddad, Wadi D. 2000. Is the Divide Digital? In Techknowlogia: International Journal of Technologies for the Advancement of Knowledge and Learning. Vol. 4, march/april, 2000.
- Hamelink, Cees, 1998. Cyberspace as the Public Domain: The Role of Civil Society. INFOETHICS 1998.

Jurich, Sonia (2000). The Information Revolution and the Digital Divide: A Review of Literature. In *Techknowlogia: International Journal of Technologies for the Advancement of Knowledge and Learning*. Vol. 4, march/april, 2000.

Keny, Charles et alii. 2000. ICTs and Poverty. Draft for Comments.

Kliksberg, B. 1997 O desafio da exclusão: para uma gestão social eficiente. São Paulo: Fundap.

Martinez, Juliana. (2000). A social vision of the Internet and public policies: ideas on strategies for bringing civil society's influence to bear. Working paper for the 2000 meeting, IDRC, September 2000. www.idrc.ca/pan

Menou, M.J. – Measuring the impact of information on development, IDRC, Ottawa, 1993.

NUA.(2000). Internet Surveys. http://www.nua.ie/surveys/how_many_online/index.html

RITS (2000). A Description of RITS's program and activities. Oct. 2000 www.rits.org.br.

Uimonen, Paula. 1998. The Internet As a Tool for Social Development. United Nations research for Social development.

UNDP, 1999. Human Development Report. www.undp.org.

UNDP, 2000. Human Development Report. www.undp.org.

Table 1
Access to Internet by Regions

Region	Millions	%
Canada e EUA	147,5	44,3
Europe	91,8	27,6
Asia and Pacific	75,5	22,7
Countries		
Latin America	13,2	4,0
Africa	2,8	0,8
Arab States	1,9	0,6
Total	332,7	100

07/2000.Source: NUA Internet Surveys

Table 2
Access to Information Indicators by Countries

IHD Ranking	GNP per capita US\$	Main telephone lines per 100	Public telephones per 1.000	Cellular mobile subscribers per 100	Personal computers per 100	Internet hosts per 1.000	Internet users per 100*
1 Canada	19.170	63,4	6,1	17,6	33,0	36,9	40,0
3 United States	29.240	66,1	6,5	25,6	45,9	112,8	41,0
9 Japan	32.350	50,3	6,2	37,4	23,7	13,3	12,7
10 United Kingdom	21.410	55,6	5,7	25,2	26,3	24,6	23,7
12 France	24.900	57,0	4,0	18,8	20,8	8,6	8,0
14 Germany	26.570	56,7	1,9	17,0	30,5	17,7	12,2
19 Italy	20.090	45,1	6,6	35,5	17,3	6,7	7,2
21 Spain	14.100	41,4	1,7	17,9	14,5	7,8	7,2
35 Argentina	8.030	20,3	2,7	7,8	3,9	1,8	1,0
38 Chile	4.990	20,5	0,9	6,5	4,8	2,0	3,0
39 Uruguay	6.070	25,0	2,8	6,0	9,1	4,7	3,3
55 Mexico	3.840	10,4	3,3	3,5	4,7	1,2	1,0
68 Colombia	2.470	17,3	1,4	4,9	2,8	0,4	1,0
74 Brazil	4.630	12,1	3,0	4,7	3,1	1,3	2,0
High human development		52	5,2	25	28	41,0	
Medium human development		7	1,3	2	..	0,2	
Low human development		0	0,1	0	..	(.)	
World		14	1,9	5	..	7,4	

Source: 200 Human Development Report , UNDP (Data from 1998). Data from Internet users from NUA Internet,1999.

Table 3

Language	Number of speakers worldwide		Presence in the WWW	
	Millions	%	%	Weighted index (Col.3/Col2)
English	630	10,5	75	7,14
Spanish	375	6,25	2,53	0,4
Portuguese	190	3,17	0,82	0,26
French	130	2,17	2,81	1,3
Italian	60	1,0	1,5	1,5
Rumanian	30	0,5	0,15	0,30

Source: Funredes (1998), The Fourth Study on Languages and the Internet.

Chart 1

